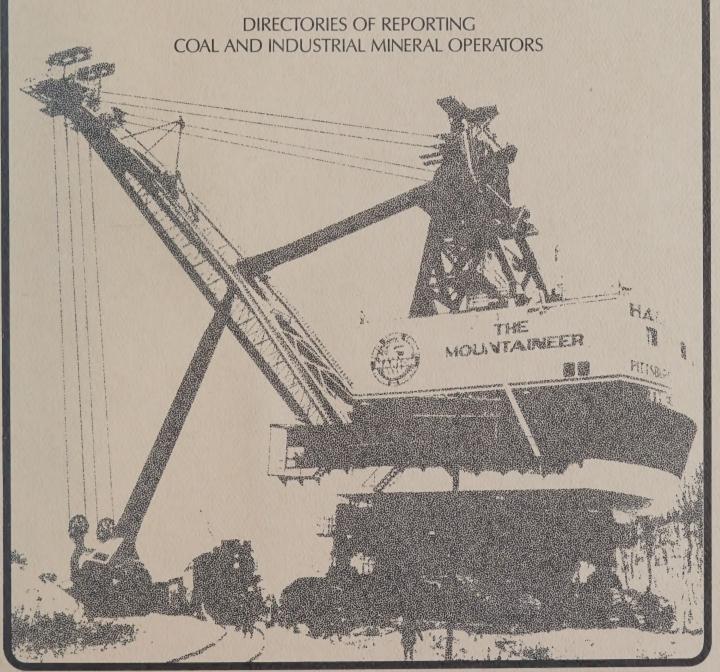
Geol Survey

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STATE OF OHIO
George V. Voinovich, Governor
DEPARTMENT OF NATURAL RESOURCES
Frances S. Buchholzer, Director
DIVISION OF GEOLOGICAL SURVEY
Thomas M. Berg, Chief

1991 REPORT ON OHIO MINERAL INDUSTRIES

WITH





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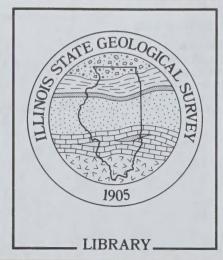
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1991 REPORT ON OHIO MINERAL INDUSTRIES

WITH

DIRECTORIES OF REPORTING
COAL AND INDUSTRIAL MINERAL OPERATORS

compiled by

Sherry L. Weisgarber

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Photocopy composer: Jean M. Lesher Cartographers: Lisa Van Doren Robert L. Stewart Michael R. Lester Cover photo: The Mountaineer, a 65-cubic-yard (approximately 100-ton) capacity electric-powered shovel built by Marion Power Shovel Co., was heralded as the world's largest shovel in 1957. This shovel was operated by the Hanna Coal Co., a Division of Consolidation Coal Co., from 1956 to 1979 in southern Harrison and northern Belmont Counties. The Mountaineer is viewed here beside one of the last coal-fired steam locomotives operating commercially in Ohio, circa 1956. Photo courtesy of the Ohio Historical Society.

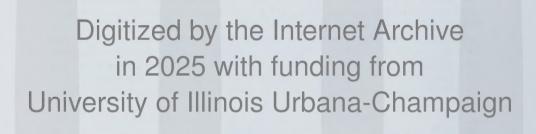
PREFACE

The mineral wealth of Ohio has long been a key factor in making our state a successful industrial leader in the United States of America. The Ohio Geological Survey has worked side-by-side with the mineral industries for over 150 years to provide the geologic information needed to wisely develop the state's vast mineral resources. That information on the location, quantity, and quality of our industrial minerals and fossil fuels is more urgently needed than ever before. It is needed not only to assist in the identification and extraction of the state's resources, but also to facilitate compliance with environmental regulations. With full knowledge of the geological characteristics and distribution of any mineral resource, it will be easier and less expensive to comply with environmental constraints. For example, a coal mining operation can predict potential acid discharge locations if the structural configuration of the coal seam and overlying and underlying strata is mapped in advance. If regional fracture patterns in a limestone layer are mapped prior to development of a quarry, the operator will be able to better predict potential impacts on nearby ground-water supplies.

Your State Geological Survey is working hard to provide the geological information needed by our mineral industries. We are releasing information on the location (geologic maps), quantity (resource estimates), and quality (chemical and physical analyses) of Ohio's mineral resources more efficiently than ever before. We are doing the best that we can to "work smarter" with state financial resources allocated to the Survey. We are pleased that Public Law 102-285, known as the National Geologic Mapping Act of 1992, was signed by President Bush in May of this year. Funds authorized by this law will assist the state geological surveys across the nation in accomplishing the geologic mapping that is so urgently needed by our mineral industries. Those funds, managed by the U.S. Geological Survey, must be matched by state dollars. So it is very important that the Ohio Geological Survey remain

financially stable and be in a position to seek federal support.

Thomas M. Berg State Geologist & Chief



FOREWORD

Ideally, individual articles addressing coal and industrial minerals are published in the *Report on Ohio Mineral Industries*. Although we originally intended to include two articles in the 1991 report, there is only one article this year on industrial minerals. "Industrial minerals in Ohio—production trends and multi-production operations" was coauthored by David A. Stith, Survey Geologist and Section Head of the Mineral Resources and Geochemistry Section, and Sherry L. Weisgarber, Survey Geologist and Mineral Statistician. A second article, "History of the coal mining industry in Ohio," authored by Douglas L. Crowell, Survey Geologist and Core-Drilling Supervisor, was to be included in this year's report. However, because of its length, it has been decided to publish this article separately as a Division of Geological Survey Information Circular. Because we believe this article will be of interest to the coal operators in Ohio, when it is published it will be distributed to all coal operators that receive this report.

Since 1987, the cover photograph of the report has depicted the lead article. This year the cover features a photograph that will be included in the forthcoming

Information Circular on "History of the coal mining industry in Ohio."

Only one change has occurred in the 1991 report. Table 22, *Ohio Lake Erie and Maumee River sand and gravel production*, has been changed to *Ohio Lake Erie sand and gravel production*, to reflect the absence of mining in the Maumee River and Maumee Bay areas.

As usual, all changes and additions are made to increase the clarity and usefulness of the report to the public. Any comments on how this report can better serve those interested in mineral resources in Ohio are always welcome.

Sherry L. Weisgarber Geologist and Mineral Statistician Errata for 1990 report now available upon request

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INDUSTRIAL MINERALS IN OHIO-PRODUCTION TRENDS AND MULTI-PRODUCTION OPERATIONS

by David A. Stith and Sherry L. Weisgarber, Ohio Department of Natural Resources, Division of Geological Survey

Adapted from a presentation given at the 28th Forum on the Geology of Industrial Minerals, Martinsburg, West Virginia, May 3-8, 1992.

ABSTRACT

The total value of nonfuel industrial minerals sold in Ohio in 1991 was \$413,197,118. Minerals produced in Ohio are limestone, dolomite, sand, gravel, salt, sandstone, conglomerate, clay, shale, gypsum, and peat. One or more of these commodities were produced in 85 of Ohio's 88 counties in 1991. Limestone, dolomite, sand, and gravel constituted the bulk of industrial mineral production in Ohio, both in terms of tonnage (90 percent) and value (80 percent). In 1991, Ohio ranked first nationally in the production of common clay and shale, fourth in salt and construction sand and gravel, and tenth in stone.

Limestone/dolomite production in Ohio increased every year from 1982 through 1990. Eighty-five percent of 1991 production came from Silurian- and Devonian-age rocks. Sand/gravel production increased most years since 1983. Except for the recession years of the early 1980's, production of limestone/dolomite and sand/gravel since 1965 was generally in the range of 40-50 million tons and 35-45 million tons, respectively.

Following peak production of over 6 million tons in the late 1960's and early 1970's, salt production from Silurian units generally fluctuated around 4 million tons from the mid-1970's to 1990. After sustained levels of more than 2 million tons per year from the 1950's to the 1970's, sandstone/conglomerate production generally declined from 1979 to the 1991 level of 1.7 million tons. More than 95 percent of sandstone/conglomerate production in Ohio came from Mississippian and lowermost

INTRODUCTION

Industrial minerals have been produced in Ohio for over 200 years. Brickmaking was reported about 1790; the first commercial salt-brining operation dates to 1796; pottery manufacture started in 1799; and the first iron furnace dates to 1804 (Ohio Division of Geological Survey, 1959).

The total value of nonfuel industrial minerals sold in Ohio was \$433,643,025 in 1990 and \$413,197,118 in 1991 (see table). Minerals produced in Ohio are limestone, dolomite, sand, gravel, salt, sandstone, conglomerate, clay,

Commodity	Sales (tons)	Value (dollars)
Limestone and dolomite Sand and gravel Salt Sandstone and conglomerate	50,247,142 42,793,746 2,670,240 1,679,512	\$188,611,303 144,384,916 42,106,635 25,317,526
Clay Shale Gypsum Peat TOTAL	2,621,465 1,839,455 199,857 18,595 102,070,012	7,628,331 3,137,442 1,898,642 112,323 \$413,197,118

1991 Sales and value of Ohio industrial minerals.

Pennsylvanian units in 1991. Clay production generally declined from a peak of over 4 million tons in the late 1950's to 0.7 million tons in 1982, but increased almost every year since 1982. Seventy-five percent of the clay produced in Ohio came from Pennsylvanian-age rocks in 1991. Shale was one commodity not showing a lengthy decline during the recession of the early 1980's. Production generally ranged from 1.5 to 2.5 million tons since the mid 1950's. Eighty percent of the 1991 shale production came from Pennsylvanian-age rocks; the rest was almost evenly split between Devonian and Mississippian units.

Although the number of mines and quarries producing lime-stone/dolomite, sand/gravel, clay, and shale decreased since the late 1960's, the number of operations producing more than one industrial mineral did not definitely decrease. The number of multi-production operations fluctuated from 16 to 46. Most of these operations are in Pennsylvanian-age rocks and produce two or more industrial minerals (limestone, clay, shale, sandstone) or one or more industrial minerals and coal. One operation produced all four nonfuel commodities and coal. There were also operations in which two different companies produced Silurian-age limestone for aggregate and for cement feedstock from the same pit. Finally, a few companies produced sizeable quantities of limestone odolomite from active or past sand and gravel operations by quarrying below the floor of older parts of the sand operations.

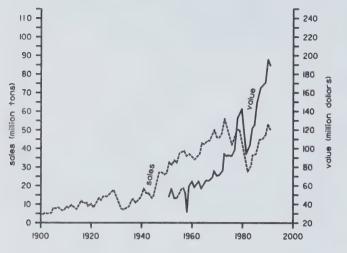
shale, gypsum, and peat. One or more of these commodities were produced in 85 of Ohio's 88 counties in 1991. Limestone, dolomite, sand, and gravel constituted the bulk of mineral production in Ohio, both in terms of tonnage (90 percent) and value (80 percent). Gypsum was produced from only one operation, and peat was an extremely small part of the total mineral production.

During the 1980's, Ohio consistently ranked among the top five states in the nation in the production of lime, common clay and shale, fire clay, salt, and construction sand and gravel. In 1991, Ohio ranked first nationally in the production of common clay and shale, fourth in salt and construction sand and gravel, and tenth in stone (L. J. Prosser, Jr., personal communication, 1992).

PRODUCTION TRENDS

Limestone/dolomite production in Ohio increased every year from 1982 through 1990, but dropped over 2 million tons in 1991 (see graph). Except for the recession years of the early 1980's, production of limestone and dolomite since 1965 was generally in the range of 40-50 million tons. Although production was relatively constant, there was a slight decrease in the number of operating quarries since 1965 from more than 140 to fewer than 120 in 1987. From

1987 to 1991 the number of quarries climbed to 126. The decrease is attributed to a decrease in the number of smaller operations and a wave of buyouts and takeovers in the aggregate industry in the 1980's and continuing into the 1990's.



Sales and value of limestone and dolomite in Ohio.

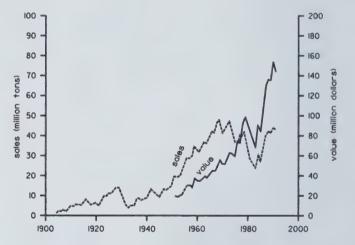
Limestone and dolomite were produced from almost all ages of rock exposed in Ohio (see table). Production from eastern Ohio was mainly from thin Pennsylvanian limestone beds. The Putnam Hill and Vanport were the most important

					1
PLEISTOCENE PERMIAN	ls		cl		sg
PENNSYLVANIAN MONONGAHELA	113				
Benwood	ls				
Fishpot	ls				
CONEMAUGH	,			sh	
Ames ALLEGHENY	ls				
Middle Kittanning			cl		
Lower Kittanning			cl	sh	
Vanport	ls			sh	
Putnam Hill	ls				
Brookville			cl	sh	
POTTSVILLE Massillon		SS			
Sharon		SS			
MISSISSIPPIAN		DD			
Maxville	ls				
Logan				sh	
Black Hand Buena Vista		SS			
Berea Vista		SS SS			
Bedford		88		sh	
DEVONIAN					
Chagrin				sh	
Silica	1			sh	
Dundee Delaware	ls ls				
Detroit River	ls				
Columbus	ls				
SILURIAN					
Salina	ls				st
Tymochtee	ls				
Greenfield	ls				
Lockport Cedarville	ls ls				
Peebles	ls				
Dayton	ls				
Brassfield	ls				

Major industrial-mineral producing units in Ohio. ls-limestone/dolomite, ss-sandstone/conglomerate, cl-clay, sh-shale, sg-sand/gravel, st-salt.

beds. Western Ohio carbonates are generally much thicker and can support much larger and deeper quarries. Eighty-five percent of carbonate-rock production came from Silurian- and Devonian-age rocks in 1991; the Lockport Dolomite, the Salina Group, and the Columbus Limestone were the most important units in western Ohio.

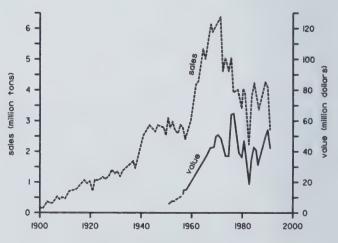
Sand and gravel production generally increased from 1983 to 1990, but dropped over 1 million tons in 1991 (see graph). Similar to carbonate production, sand and gravel production held relatively constant since 1965 except for the recession years of the early 1980's. Production since 1965 was in the range of 35-45 million tons. The trend of decreasing numbers of aggregate pits mentioned previously for carbonates was even more drastic for sand and gravel. Since 1965 the number of operating pits decreased from over 425 to fewer than 240 in 1987 but climbed to more than 300 by 1991.



Sales and value of sand and gravel in Ohio.

Sand and gravel production in Ohio comes mainly from Pleistocene glacial deposits (see table above). The primary type of deposit currently worked is outwash; minor production comes from kames, eskers, and beach ridges. A minor amount of sand and gravel also comes from Recent alluvium

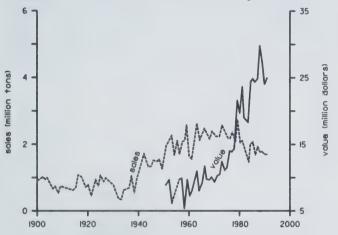
Salt production peaked at more than 6 million tons in the late 1960's and early 1970's and generally fluctuated



Sales and value of salt in Ohio.

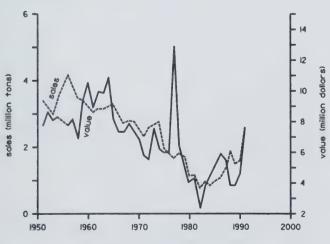
around 4 million tons from the mid-1970's to 1990, except for 1983 (see graph). In 1991, production dropped to 2.7 million tons, mainly because of strikes against the major producers. Salt was produced both by mining and by brining operations and was totally in Silurian-age Salina units. Most (72 percent) of the salt was mined; about 28 percent of the production was from brining operations.

Sandstone/conglomerate production was generally more than 2 million tons per year from the 1950's to the 1970's. Production generally declined from 1979 to 1.7 million tons in 1990 and 1991 (see graph). The number of quarries producing sandstone/conglomerate fluctuated between 25 and 45 since 1965 with little correlation to the total tonnage per year. The number of operating quarries has been 33 or fewer since 1976. More than 95 percent of sandstone/conglomerate production came from Mississippian and lowermost Pennsylvanian units in 1991. The Sharon, Massillon, and Black Hand were the main producers.



Sales and value of sandstone and conglomerate in Ohio.

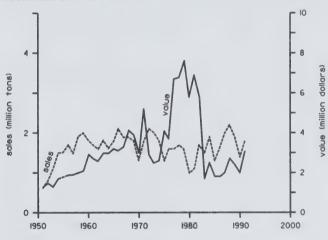
Production of dimension sandstone in Ohio is threatened with the same fate as dimension limestone—near extinction. In 1991, one of the three main remaining producers declared bankruptcy and was bought by one of the other two companies. The third dimension-stone producer is now predicted to close in 1992. Production in 1991 dropped to about 45,000 tons, less than 3 percent of total sandstone/conglomerate production.



Sales and value of clay in Ohio.

Clay production generally declined from a peak of over 4 million tons in the late 1950's to 0.7 million tons in 1982, but increased almost every year since 1982 (see graph). Clay was one of only two industrial minerals that showed an increase in 1991, climbing to 2.6 million tons. Like limestone/dolomite and sand/gravel operations, the number of operating clay pits declined since 1965. In the case of clay, this decline was constant from more than 100 to 36 in 1982. Since then, the number of pits held steady, ranging from 33 to 37. In 1991 the number of pits climbed to 48. Seventy-five percent of the clay produced in Ohio in 1991 came from Pennsylvanian-age rocks, primarily Allegheny Group clays. The remainder came from Pleistocene lake deposits and tills.

Shale was one commodity not showing a lengthy decline during the recession of the early 1980's (see graph). Production generally ranged from 1.5 to 2.5 million tons since the mid-1950's. Shale was the only other commodity besides clay that showed an increase in 1991, climbing to 1.8 million tons. Like clay operations, the number of producing shale pits gradually declined from more than 65 in 1965 to 27 in 1980. Since 1980 the number of pits fluctuated between 24 and 30 but climbed to 37 in 1991.



Sales and value of shale in Ohio.

Shale was second to limestone in the stratigraphic spread of producing units. Eighty percent of the 1991 shale production came from various Pennsylvanian-age rocks, particularly those in the Allegheny Group. The rest of the production was almost evenly split between Devonian and Mississippian units, mainly from the Bedford Shale and Chagrin Shale.

MULTI-PRODUCTION OPERATIONS

As noted above, the number of mines and quarries producing limestone and dolomite, sand and gravel, clay, and shale decreased since the late 1960's. However, the number of operations producing more than one industrial mineral did not show such a definite decrease. Since 1970 the number of multi-production operations fluctuated between 16 and 46. From 1970 to 1980 the range was 30 to 46, averaging about 40; since 1981 the range was 16 to 39, averaging about 26. Responsibility for compiling and publishing industrial mineral data changed in 1981-82 from the Ohio Department of Industrial Relations, Division of Mines to the Ohio Department of Natural Resources, Division of Geological Survey. The changeover included publishing the already compiled 1981 and 1982 data in the

previous format (Ohio Division of Mines, 1965-1980; Ohio Division of Geological Survey, 1981-1990). The numbers of multi-production pits have been assembled from various text sections of the different reports. It was unclear whether there was an actual decrease in the number of pits or changes in reporting and compilation methods over the years.

The one change that was clear was the make-up of the multi-commodity operations. Most of them were in Pennsylvanian-age rocks and produced two or more industrial minerals (limestone, clay, shale, sandstone) or one or more industrial minerals and coal. Prior to 1970, 80 percent or more of the multiple operations produced coal with one or more industrial minerals. By 1990, less than 50 percent of the operations produced coal along with other minerals. In 1991, one operation produced all four nonfuel minerals along with coal.

Some multiple-commodity pits operated in rocks other than Pennsylvanian-age rocks. Two different companies produced Silurian-age limestone for aggregate and for cement feedstock from the same pit in several locations in western Ohio. In portions of Clark, Greene, and Montgomery Counties, limestone of the upper part of the Brassfield Formation is low in dolomite whereas the lower part is not. The upper part of the Brassfield was used as cement feedstock and the lower part was taken by another company

for aggregate uses.

Another type of operation was the quarrying of limestone from old or existing sand and gravel pits. This method was most prevalent near metropolitan areas where construction aggregates were rapidly being depleted and land values were increasing greatly. Bates (1973) described one such operation in southern Franklin County in its infancy. This stone quarry started in 1971 while the sand and gravel pit was still active. The sand and gravel operation is now completed, having excavated over 700 acres, but the stone quarry is still in production. In western Franklin County, Olen Corporation has quarried dolomite in association with a sand and gravel operation along Big Darby Creek. Two stone pits, now reclaimed, were quarried in the older, northern and middle portions of the sand and gravel operation. The third pit is now run as a joint operation; approximately 15 feet of sand and gravel is taken in the first lift, followed by about 40 feet of undifferentiated Salina dolomite in the lower level.

MINERAL INDUSTRIES ACTIVITIES AT THE OHIO SURVEY

The Ohio Department of Natural Resources (ODNR), Division of Geological Survey has recently completed or is currently working on a number of projects related to industrial minerals. A recently completed project on the "Characterization of trace metals in Ohio brines" includes a detailed statistical study of the major- and minor-element composition of Ohio brines. The Division is responsible for the compilation of production, use, sales, and employment figures on coal and all industrial minerals produced in Ohio. This project is the basis for an annual report on Ohio mineral industries, and was the source of data for this paper. Another annual Division activity is the "Ohio's Mineral Industries Teachers Workshop," which is jointly presented by ODNR and the University of Akron. This week-long workshop is designed to familiarize teachers with the geology and economic mineral resources of Ohio. Finally, the Division recently started a project of chemical characterization of



Olen Corp. gravel and dolomite pit, Brown Township, Franklin County, Ohio.

carbonate rocks in Ohio. This project will fill gaps in the existing data and will help in the evaluation of Ohio carbonate rocks for sulfur emission control.

CONCLUSION

It is expected that the trend of increasing or constant limestone/dolomite and sand/gravel production levels will continue as long as the demand for these materials remains high in the construction industry. Additional demand for Ohio limestone and dolomite will come from the increased use of carbonates in sulfur emission controls for coal-fired electric utilities. Crushed sandstone/conglomerate production levels also will remain constant, while dimension-sandstone production will decrease as demand for this material continues to decline. Salt production is expected to remain constant, barring future strikes, because the demand for this material for ice control is fairly high from year to year. Clay and shale production will continue to increase as the need for these materials in landfill use continues to grow.

Multi-production operations also will continue to be utilized by companies as long as the geologic setting is conducive. Economically, it is advantageous to sell each minor commodity encountered while mining the main commodity.

The Ohio Geological Survey will continue its support of the mineral industries through research and public awareness. With their continued success in reclamation efforts, awareness of environmental concerns, and focus on efficient mining techniques, Ohio's industrial-mineral industries will be around for a long, long time.

ACKNOWLEDGMENTS

Mr. Ken Holland, Olen Corporation, kindly authorized the use of the photo of his company's operation. Michael R. Lester provided cartographic assistance.

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1991 OHIO MINING ACTIVITIES IN BRIEF

Reports were filed in 1991 for 299 coal-mining operations, which includes 9 mines with their own coal-washing facility. Coal production was reported from 198 of these 299 operations. Reports also were filed for 61 separate coalwashing plants and associated facilities. Of 611 industrialmineral-mining operations known to be operating in 1991. 514 operations were active. There were a total of 40 mines reporting production of multiple mineral commodities. Out of this total, 23 mines reported production of multiple industrial minerals only; 12 mines reported production of multiple industrial minerals and coal; and 5 mines reported production of coal and one industrial mineral. There were 992 new wells completed for oil and gas in 1991, of which 854 were productive and 138 were dry.

The total value¹ of coal was \$816,705,900 in 1991; the

¹Includes reported and estimated values. Some operations reporting sales did not report a value for those sales. A statewide average price per ton was calculated for each industrial mineral commodity based on sales for was calculated for each industrial mineral commodity based on sales for which the value was reported. A countywide average price per ton was calculated for coal based on sales for which the value was reported and method of production. These calculated averages were used to estimate the value of the sales for which the actual values were not reported. value of oil and gas was \$527,935,886; and the total value1 of all nonfuel industrial minerals was \$413,197,118 in 1991.

TABLE 1.—1991 Mineral sales and production in Ohio

Commodity	Sales ¹	Production ²
Coal	29,413,746 tons	29,357,683 tons
Limestone and dolomite	50,247,142 tons	53,944,380 tons
Sand and gravel	42,793,746 tons	43,791,194 tons
Salt	2,670,240 tons	2,172,911 tons
Sandstone and conglomerate	1,679,512 tons	1,862,155 tons
Clay	2,621,465 tons	2,572,179 tons
Shale	1,839,455 tons	1,930,713 tons
Gypsum	199,857 tons	199,857 tons
Peat	18,595 tons	16,600 tons
Gas	3	147,651,188 MCF ⁴
Oil	3	9,158,332 barrel

¹Includes material for captive use.

²The production figures for the industrial minerals are estimates. Many operators do not know actual production. Some operators report estimates, other operators do not report any production. For those operators who do not report production, production is assumed to equal sales.

³Figure not available



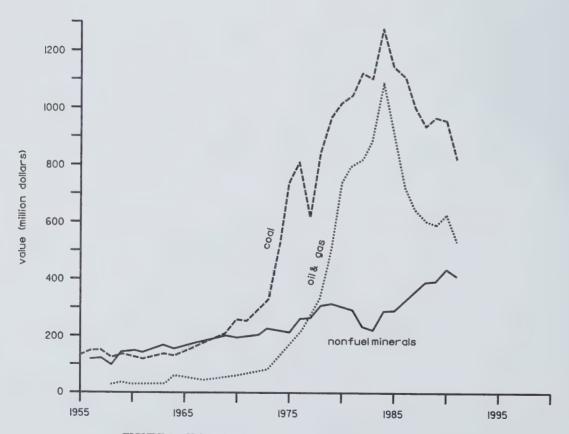


FIGURE 1.—Value of coal, nonfuel minerals, and oil and gas in Ohio.

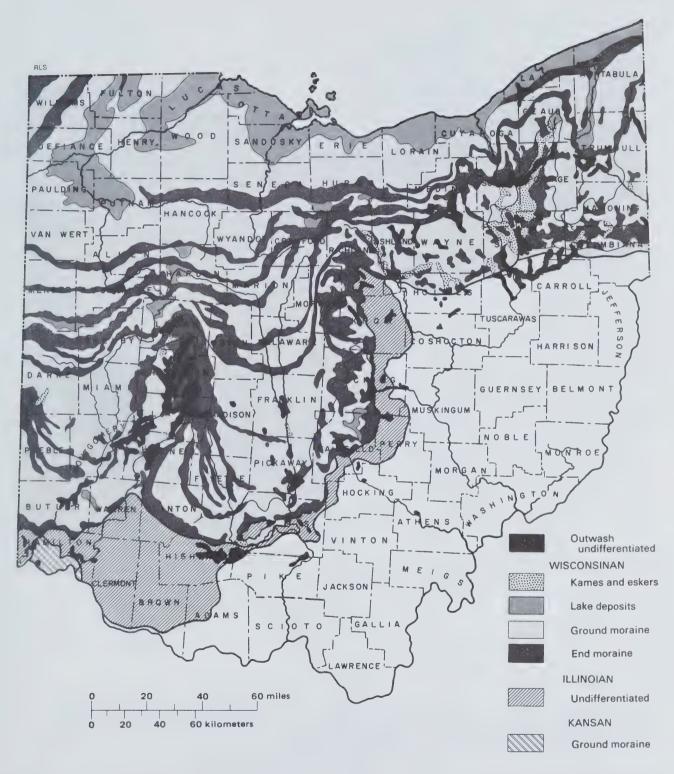


FIGURE 2.—Generalized map of the glacial deposits of Ohio. Continental glaciers advanced over the Ohio landscape several times during the Ice Age. These glaciers deposited unconsolidated materials on top of the bedrock over nearly two-thirds of the state. Most of Ohio's sand and gravel production comes from kames, eskers, and outwash, which were deposited by meltwater from the glaciers. Other glacially derived industrial minerals in Ohio include peat and clay.

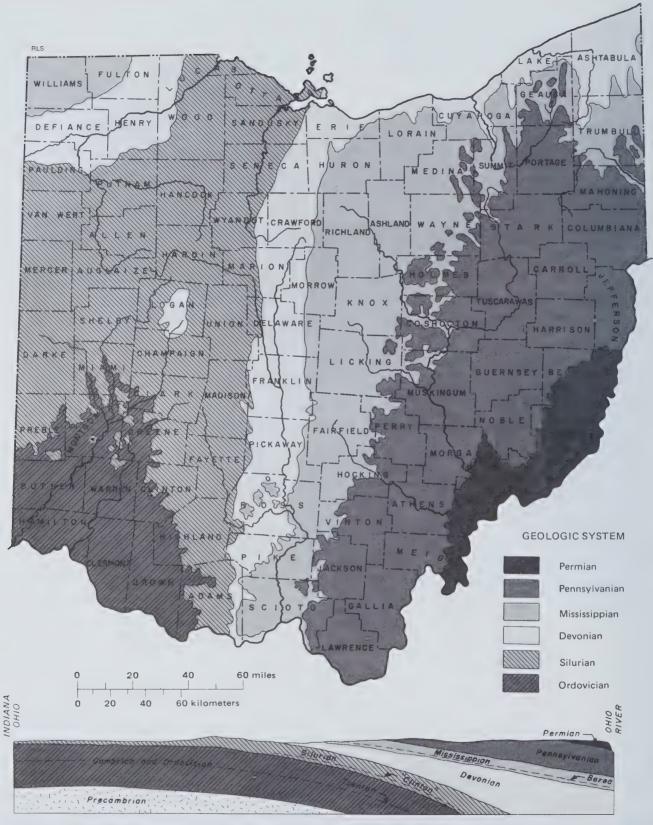


FIGURE 3.—Generalized geologic map and cross section of Ohio. Mineral production occurs throughout Ohio and from every geologic system from the Cambrian to the Permian. Coal, limestone and dolomite, sandstone and conglomerate, shale, clay, gypsum, salt, and oil and gas are produced from Ohio bedrock.

COAL

Coal was produced by 84 companies at 198 mines in 23 Ohio counties during 1991. Production decreased 11.4 percent from 1990, totalling 29,357,683 tons in 1991, with 17,133,177 tons (58.4 percent of total production) produced at 188 surface mines, and 12,224,506 tons (41.6 percent of total production) produced at 10 underground mines. Ohio is the tenth-largest coal-producing state in the nation with Wyoming, West Virginia, and Kentucky being first, second and third. Ohio also ranks third nationally in coal consumption following Texas and Illinois.2 In comparison to 1990, there were 8 fewer mines reporting production of 50,000 tons or less, 12 fewer mines producing between 50,000 and 500,000 tons, 2 more mines producing between 500,000 and 1,000,000 tons, and 1 less mine reporting production of 1,000,000 tons or greater; there was a net decrease of 19 mines in 1991.

The five leading counties for 1991 production were Meigs, Belmont, Noble, Vinton, and Monroe Counties; these counties produced 57.0 percent of the 1991 total production. A total of 29,413,746 tons of coal were sold in 1991 with a total value³ of \$816,705,900. The average price per ton of all coal sold was \$27.77; surface-mined coal averaged \$25.70 per ton and underground-mined coal averaged \$30.61.

In underground mining, 30.8 percent of the coal was

²Information from U.S. Department of Energy, Energy Information Administration.

³Includes reported and estimated values. See footnote 1, p. 6.

mined by continuous miner and 69.2 percent was produced by longwall mining; no coal was produced by conventional mining in 1991. In surface operations, 6.1 percent of the coal produced was auger mined, and 93.9 percent was strip mined.

The Pittsburgh (No. 8) coal was the most heavily mined seam, followed by the Clarion (No. 4A), Meigs Creek (No. 9), Middle Kittanning (No. 6), and Lower Kittanning (No. 5) seams. Coal produced from these five seams made up 83.8 percent of the total 1991 production.

A total of 19,902,423 tons of washed coal were reported in 1991. Reports from 15 coal-washing plants indicate an average 34.9 percent loss in washing.

Trucking was the primary means of coal disposition, carrying 50.8 percent of the total sales. Conveyor belts carried 29.5 percent, water transport carried 10.7 percent, and rail transported 9.0 percent of the coal sold in 1991. A total of 1.3 percent of the coal produced was reported as stored.

The total average annual employment reported in 1991 was 5,475 employees, 3,165 of whom were production employees. Production employees worked an average of 151 days producing coal in 1991. The average annual wage earned by all production employees was \$36,852, based on those employees for whom wages were reported. The average annual wage for surface-mine production employees was \$32,254, and the average annual wage for underground-mine production employees was \$43,404. Wages earned by all employees totalled \$208,407,386 in 1991.



FIGURE 4.—Coal sales in Ohio in 1991, by county.



FIGURE 5.—Sales and value of coal in Ohio.

1991 OHIO MINERAL INDUSTRIES REPORT

TABLE 2.—1991 Ohio coal production by production-size group and change from 1990

	1	991	Change from
Production-size group	Number of mines reporting	Production (short tons)	1990 (short tons)
Under 25,000 tons	77	780,772	-92,522
25,000 to 49,999 tons	33	1,141,119	-18,864
50,000 to 99,999 tons	37	2,655,187	-111,645
100,000 to 249,999 tons	34	5,350,601	-156,066
250,000 to 499,999 tons	7	2,533,916	-2,637,015
500,000 to 999,999 tons	5	3,562,546	+1,187,723
1,000,000 tons and over	5	13,333,542	-1,941,495
TOTAL	198	29,357,683	-3,769,884

TABLE 3.—1991 Ohio coal production by county and mining method

				Undergroui	nd			Surface			
County ¹	All methods	Number of		Productio	on (short tons)		Number of	Production (short tons)			
(short tons)	(short tons)	mines reporting	Total	Longwall	Conventional	Continuous miner	mines reporting	Total	Strip	Auger	
Athens Belmont Carroll Columbiana Coshocton	68,272 4,517,577 605,299 1,137,687 1,316,246	2	3,020,736	1,982,829		1,037,907 761,223	2 23 12 12 14	68,272 1,496,841 605,299 376,464 1,316,246	68,272 1,313,424 542,819 345,703 1,206,779	183,417 62,480 30,761 109,467	
Guernsey Harrison Hocking Holmes Jackson	296,261 1,763,088 52,925 335,059 873,360	1	425,517			425,517	4 14 2 6 6	296,261 1,337,571 52,925 335,059 873,360	264,176 1,313,380 52,925 335,059 873,360	32,085 24,191	
Jefferson Lawrence Mahoning Meigs Monroe	1,321,927 867,036 100,261 4,671,674 2,128,435	2 1	4,671,674 2,128,435	3,875,339 1,681,657		796,335 446,778	13 ² 2 3	1,321,927 867,036 100,261	1,260,638 867,036 80,871	61,289 19,390	
Muskingum Noble Perry Stark Tuscarawas	1,236,053 2,799,922 196,484 475,340 1,923,964						$ \begin{array}{c} 2^2 \\ 10 \\ 5 \\ 9 \\ 40 \end{array} $	1,236,053 2,799,922 196,484 475,340 1,923,964	1,156,430 2,665,441 196,484 446,733 1,640,866	79,623 134,481 28,607 283,098	
Vinton Washington Wayne	2,618,565 30,970 21,278	13	1,216,921	919,006		297,915	9^{2} 1^{4} 1^{5}	1,401,644 30,970 21,278	1,401,644 30,970 21,278	,	
TOTAL	29,357,683	10	12,224,506	8,458,831	0	3,765,675	188	17,133,177	16,084,288	1,048,889	

¹Production from mines operating in more than one county was evenly split between the counties involved unless a by-county breakddown was provided by the operator.

2Does not include mines extending into this county from adjoining counties.

3This mine extends into Vinton County from Meigs County and is not included in the total number of mines.

4This mine extends into Washington County from Noble County and is not included in the total number of mines.

5This mine extends into Wayne County from Holmes County and is not included in the total number of mines.

TABLE 4.—1991 Ohio coal production by county and month

	Production (short tons)												
County ¹	Total annual	January	February	March	April	May	June	July	August	September	October	November	December
Athens	68,272	9,724	7,771	4,424	4,840	6,838	7,988	7,511	7,722	2,228	2,202	3,970	3,054
Belmont	4,517,577	504,024	480,893	320,331	435,457	470,891	296,940	380,108	343,557	300,106	397,944	335,783	251,543
Carroll	605,299	33,672	29,758	34,725	39,929	31,971	32,006	10,885	12,438	18,551	121,198	120,004	120,162
Columbiana	1,137,687	104,564	90,749	117,577	105,718	108,078	92,538	85,985	79,774	90,419	106,601	77,839	77,845
Coshocton	1,316,246	152,554	124,203	130,666	114,289	103,250	79,939	107,699	108,369	92,389	105,758	87,982	109,148
Guernsey	296,261	6,665	9,263	11,511	13,225	14,413	17,727	20,686	22,652	20,992	35,563	64,943	58,621
Harrison	1,763,088	161,112	145,963	143,460	167,653	144,835	135,996	134,935	136,459	148,702	156,914	135,079	151,980
Hocking	52,925	8,950	4,801	2,569	5,408	4,990	5,219	3,543	6,472	3,090	1,991	2,314	3,578
Holmes	335,059	49,755	37,818	37,888	27,677	30,289	24,487	18,249	23,129	18,800	23,342	23,945	19,680
Jackson	873,360	97,717	84,853	84,956	84,626	35,572	40,461	62,517	62,788	71,155	82,164	81,696	84,855
Jefferson	1,321,927	152,628	123,695	126,688	119,512	130,179	112,192	101,979	84,125	88,350	87,339	92,277	102,963
Lawrence	867,036	23,665	65,678	67,621	84,033	117,982	111,480	84,672	80,987	65,382	76,893	49,948	38,695
Mahoning	100,261	15,453	13,382	16,552	7,825	8,811	6,297	6,903	7,112	1,447	6,045	2,588	7,846
Meigs	4,671,674	356,842	394,171	407,551	395,726	430,337	434,214	387,141	338,864	428,135	348,965	318,199	431,529
Monroe	2,128,435	231,590	213,408	224,299	244,413	242,025	228,152	147,029	113,675	137,093	134,443	87,044	125,264
Muskingum	1,236,053	58,084	65,383	90,901	68,846	48,425	56,146	170,654	165,163	199,121	40,699	162,040	110,591
Noble	2,799,922	284,452	249,218	242,012	277,467	237,477	222,973	201,146	239,850	176,112	136,092	239,487	293,636
Perry	196,484	26,287	14,961	18,283	22,444	19,765	18,990	13,525	5,916	12,931	9,897	16,836	16,649
Stark	475,340	65,175	62,665	67,252	53,015	54,204	52,383	17,662	23,496	20,121	22,115	20,398	16,854
Tuscarawas	1,923,964	203,164	187,405	172,115	171,440	137,120	136,813	147,455	145,437	150,989	154,490	147,952	169,584
Vinton	2,618,565	200,500	174,296	217,559	210,633	201,756	221,696	210,773	220,332	224,175	197,151	242,763	296,931
Washington	30,970	6,168	8,598	3,127	1,391	1,965	1,397	0	0	0	1,686	2,604	4,034
Wayne	21,278	2,802	0	0	1,619	2,083	3,065	3,142	2,629	571	1,789	1,789	1,789
TOTAL	29,357,683	2,755,547	2,588,932	2,542,067	2,657,186	2,583,256	2,339,099	2,324,199	2,230,946	2,270,859	2,251,281	2,317,480	2,496,831

¹Production from mines operating in more than one county was evenly split between the counties involved unless a by-county breakdown was provided by the operator.



Coal tipple at the Sunday Creek Coal Co. Mine No. 5 at Murray City, Hocking and Athens Counties, $\it circa~1940.$ Photo courtesy of Mark Wharton.

TABLE 5.—1991 Ohio coal production

											Product	ion
County ¹	Total	Sharon (No. 1)	Lower Mercer (No. 3)	Upper Mercer (No. 3A)	Tionesta (No. 3B)	Brookville (No. 4)	Winters	Clarion (No. 4A)	Lower Kittanning (No. 5)	Strasburg (No. 5A)	Middle Kittanning (No. 6)	
Athens Belmont Carroll Columbiana Coshocton	68,272 4,517,577 605,299 1,137,687 1,316,246					57,110			167,770 31,162 356,988		32,597 294,564 120,082 905,252	
Guernsey Harrison Hocking Holmes Jackson	296,261 1,763,088 52,925 335,059 873,360	61,479				34,209 205,577	637	176,076	25,819 156,388 410,161		5,270 144,462 18,950	
Jefferson Lawrence Mahoning Meigs Monroe	1,321,927 867,036 100,261 4,671,674 2,128,435			58,237		80,005		269,598 4,671,674	269,601 257		269,600 19,999	
Muskingum Noble Perry Stark Tuscarawas	1,236,053 2,799,922 196,484 475,340 1,923,964		9,006	159,225	18,740	108,244 66,852			2,029 205,722 527,499	6,512	279,956 76,233 154,862 659,036	
Vinton Washington Wayne	2,618,565 30,970 21,278		109,687			478,215 21,278	69,338	1,399,356	373,232		155,835	
TOTAL	29,357,683	61,479	118,693	217,462	18,740	1,051,490	69,975	6,516,704	2,660,194	6,512	3,136,698	

¹Production from mines operating in more than one county was evenly split between the counties involved unless a by-county breakdown was provided

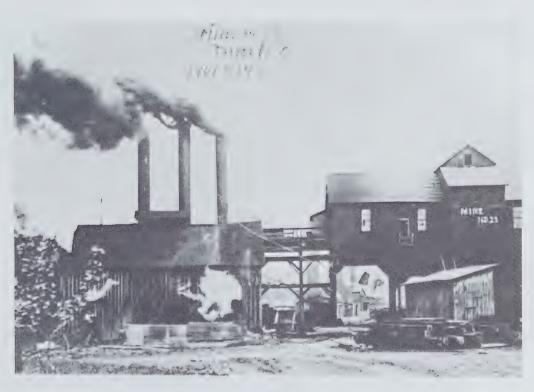


Rail-loading coal tipple at the Sunday Creek Coal Co. Mine No. 90, located northwest of Hemlock, Perry County, circa 1940. Photo courtesy of Mark Wharton.

by county and seam

short tons)									
Lower Freeport (No. 6A)	Upper Freeport (No. 7)	Anderson	Harlem	Pittsburgh (No. 8)	Pomeroy- Redstone (No. 8A)	Meigs Creek (No. 9)	Waynesburg (No. 11)	Washington (No. 12)	County
32,599 545,857	3,076 9,734 150,076		133,231	3,547,439 21,834 54,006	7,648	549,708	362,699	50,083	Athens Belmont Carroll Columbian Coshocton
425,517 21,836	212,459 2,569		123,701	83,802 1,159,695	48,192	3,414			Guernsey Harrison Hocking Holmes Jackson
				1,110,544	203,5672	7,821			Jefferson Lawrence Mahoning Meigs Monroe
34,304	5,451 118,222 449,302	33,767				822,531 2,760,704			Muskingu Noble Perry Stark Tuscarawa
1,131	31,771					30,970			Vinton Washingto Wayne
1,061,244	983,140	33,767	256,932	8,105,755	259,402	4,175,148	362,699	50,083	TOTAL

by the operator.



Power house and coal tipple at the Hisylvania Coal Co. Mine No. 23 at Trimble, Athens County, circa 1920. Photo courtesy of Mark Wharton.

TABLE 6.—1991 Disposition of Ohio coal, by county

				Disposition	(short tons)			
County ¹	Number of mines	Total ²	Rail	Water	Truck	Conveyor	Unspecified/ other	Stored
Athens Belmont Carroll Columbiana Coshocton	2 25 12 16 14	68,272 4,562,903 607,026 1,127,925 1,279,485	2,520,907	275,397 333,109	68,272 1,766,599 607,026 1,127,925 840,512	105,864		158,896 11,378 78,216
Guernsey Harrison Hocking Holmes Jackson	4 15 2 6 6	296,811 1,777,148 52,925 335,059 873,360	39,852	73,946 89,868 9,753 97,452	222,865 1,647,428 43,172 335,059 775,908			2,081
Jefferson Lawrence Mahoning Meigs Monroe	13 ³ 2 3 2 1	1,322,137 867,036 103,241 4,673,938 2,227,139		1,942,377	1,174,997 867,036 103,241 284,762	4,673,938		3,694 1,415 43,871
Muskingum Noble Perry Stark Tuscarawas	3 ³ 10 5 9 40	1,237,789 2,799,116 196,573 475,340 1,866,051	82,867	55,615 3,514	417,077 889,906 196,573 475,340 1,779,670	820,712 1,853,578	17	162 60,323
Vinton Washington Wayne	9 ³ 1 ⁴ 1 ⁵	2,612,224 30,970 21,278		131,909	1,265,884 30,970 21,278	1,214,431		18,308
TOTAL	199	29,413,746	2,643,626	3,160,080	14,941,500	8,668,523	17	378,344

Tonnage of coal shipped from mines operating in more than one county was evenly split between the counties involved and type(s) of disposition reported unless a by-county breakdown was provided by the operator.

2Does not reflect tonnage stored. Reflects tonnage sold and shipped from mine.

3Does not include mines extending into this county from adjoining counties.

4This mine extends into Washington County from Noble County and is not included in the total number of mines.

5This mine extends into Wayne County from Holmes County and is not included in the total number of mines.

TABLE 7.—1991 Rail shipments of Ohio coal, by county of origin and carrier

Number of mines	Shipments (short tons)							
	Total	Conrail	Ohio Central	Wheeling & Lake Erie				
2	2,520,907 39,852	2,142,259 39,852	00.00	378,648				
1	, i	0.100.111	,	378,648				
	mines	mines Total 2 2,520,907	Number of mines Total Conrail 2 2,520,907 2,142,259 1 39,852 39,852 1 82,867 39,852	Number of mines Total Conrail Ohio Central 2 2,520,907 2,142,259 39,852 39,852 82,867 1 82,867 82,867 82,867 82,867				

TABLE 8.—1991 Washed Ohio coal

		Raw coal (short tons)	Washed coal (short tons)	Loss in washing (short tons)	Loss in washing (percent)	Percent of all washed coals
By type of mining	From surface mines From underground mines TOTAL	10,454,562 ¹ 20,139,680 30,594,242	8,314,043 ¹ 11,588,380 19,902,423 ²	2,140,519 8,551,300 10,691,819	20.5 42.5 34.9	41.8 58.2 100.0
	Lower Mercer (No. 3A) Brookville (No. 4) Winters Clarion (No. 4A) Lower Kittanning (No. 5)	121,862 447,694 ¹ 94,852 11,995,882 ¹ 1,819,827 ¹	107,833 392,497 69,672 6,400,077 1,401,952 ¹	14,029 55,197 25,180 5,595,805 417,875	11.5 12.3 26.5 46.6 23.0	0.5 2.0 0.3 32.2 7.0
By seam	Middle Kittanning (No. 6) Lower Freeport (No. 6A) Upper Freeport (No. 7) Mahoning (No. 7A) Pittsburgh (No. 8)	1,447,490 ¹ 231,231 124,668 9,734 8,571,638 ¹	1,121,488 ¹ 183,915 95,284 ¹ 7,403 5,404,700 ¹	326,002 47,316 29,384 2,331 3,166,938	22.5 20.5 23.6 23.9 36.9	5.6 0.9 0.5 <0.1 27.2
	Pomeroy-Redstone (No. 8A) Meigs Creek (No. 9) Waynesburg (No. 11) Washington (No. 12)	125 3,232,759 521,855 ¹ 48,923 ¹	100 2,678,473 339,749 31,851	25 554,286 182,106 17,072	20.0 17.1 34.9 34.9	<0.1 13.5 1.7 0.2
	Other ³ TOTAL	1,925,702 ¹ 30,594,242	1,667,429 19,902,423 ²	258,273 10,691,819	13.4 34.9	8.4 100.0

¹The raw tonnage (before washing) and/or the clean tonnage (after washing) of coal was estimated for those mines which failed to report this information. These estimates were calculated using a statewide-average loss-in-washing percentage based on raw/ washed coal values for type of mining and for seam deemed to be reliable. ²These figures reflect total washed coal in 1991 and do not necessarily reflect only 1991 production. In 1991, 57.4% of the total production was reported as washed. Coal not designated as washed or unwashed was assumed to be unwashed. ³Unspecified tonnages of seams listed above.

TABLE 9.—1991 Dollar value of coal at mine by county and mining method

		S	urface		T	Und	erground		1		Total	
County ¹	No. of mines	Tonnage sold (short tons)	Value at mine ² (dollars)	Per ton average (dollars)	No. of mines	Tonnage sold (short tons)	Value at mine ² (dollars)	Per ton average (dollars)	No. of mines	Tonnage sold (short tons)	Value at mine ² (dollars)	Per ton average (dollars)
Athens Belmont Carroll Columbiana Coshocton	2 23 12 12 14	68,272 1,500,809 607,026 372,109 1,279,485	\$1,754,590 37,641,685 14,894,962 8,978,694 34,058,983	\$25.70 25.08 24.54 24.13 26.62	2	3,062,094 755,816	\$88,250,112 10,541,000	\$28.82 13.95	2 25 12 16 14	68,272 4,562,903 607,026 1,127,925 1,279,485	\$1,754,590 125,891,797 14,894,962 19,519,694 34,058,983	\$25.70 27.59 24.54 17.31 26.62
Guernsey Harrison Hocking Holmes Jackson	4 14 2 6 6	296,811 1,350,394 52,925 335,059 873,360	8,815,476 33,263,802 963,331 5,692,248 17,358,626	29.70 24.63 18.20 16.99 19.88	1	426,754	10,034,712	23.51	15 2 6 6	296,811 1,777,148 52,925 335,059 873,360	8,815,476 43,298,514 963,331 5,692,248 17,358,626	29.70 24.36 18.20 16.99 19.88
Jefferson Lawrence Mahoning Meigs Monroe	13 ³ 2 3	1,322,137 867,036 103,241	35,091,046 17,479,700 2,863,241	26.54 20.16 27.73	2 1	4,673,938 2,227,139	173,115,110 51,574,220	37.04 23.16	13 ³ 2 3 2 1	1,322,137 867,036 103,241 4,673,938 2,227,139	35,091,046 17,479,700 2,863,241 173,115,110 51,574,220	26.54 20.16 27.73 37.04 23.16
Muskingum Noble Perry Stark Tuscarawas	3 ³ 10 5 9 40	1,237,789 2,799,116 196,573 475,340 1,866,051	45,261,306 91,312,214 3,929,511 10,072,496 42,493,671	36.57 32.62 19.99 21.19 22.77					33 10 5 9 40	1,237,789 2,799,116 196,573 475,340 1,866,051	45,261,306 91,312,214 3,929,511 10,072,496 42,493,671	36.57 32.62 19.99 21.19 22.77
Vinton Washington Wayne	9 ³ 1 ⁵ 1 ⁶	1,397,793 30,970 21,278	25,704,824 508,816 212,670	18.39 16.43 9.99	14	1,214,431	44,838,854	36.92	9 ³ 1 ⁵ 1 ⁶	2,612,224 30,970 21,278	70,543,678 508,816 212,670	27.01 16.43 9.99
TOTAL	189	17,053,574	\$438,351,892	\$25.70	10	12,360,172	\$378,354,008	\$30.61	199	29,413,746	\$816,705,900	\$27.77

Sales reported from mines operating in more than one county were evenly split between the counties involved unless a by-county breakdown was provided by the operator.

The FOB value of coal sold was estimated for those mines which failed to report this information. These estimates were calculated using a countywide-average price per ton by mining method based on reported FOB values deemed to be reliable.

Does not include mines extending into this county from adjoining counties.

This mine extends into Vinton County from Meigs County and is not included in the total number of mines.

This mine extends into Washington County from Noble County and is not included in the total number of mines.

TABLE 10.—1991 Ohio coal-mine employment¹, by occupational group and month

						Nu	mber of	employ	ees				
Occupational group	Monthly average	January	February	March	April	May	June	July	August	September	October	November	December
All production workers Underground mines Surface mines	3,165 1,305 1,860	3,397 1,439 1,958	3,430 1,443 1,987	3,353 1,396 1,957	3,359 1,370 1,989	3,323 1,378 1,945	3,236 1,356 1,880	3,192 1,356 1,836	3,036 1,182 1,854	3,048 1,209 1,839	2,931 1,177 1,754	2,867 1,183 1,684	2,809 1,172 1,637
Supervisory, technical, and clerical	1,078	1,125	1,116	1,109	1,129	1,125	1,115	1,127	1,059	1,055	1,002	994	985
Central preparation plant, central shop, etc.	714	745	740	740	730	729	724	714	686	690	694	691	682
Reclamation	217	122	123	122	209	245	241	278	271	269	270	241	207
Other ²	301	337	336	321	324	318	287	288	286	279	282	282	277
TOTAL	5,475	5,726	5,745	5,645	5,751	5,740	5,603	5,599	5,338	5,341	5,179	5,075	4,960

TABLE 11.—1991 Ohio coal-mine production employment!, by county and month

		Number of employees													
County ²	Monthly average	January	February	March	April	May	June	July	August	September	October	November	December		
Athens	14	9	16	14	16	15	16	16	20	18	11	9	5		
Belmont	415	431	414	403	407	425	457	457	452	430	379	378	350		
Carroll	70	79	77	69	69	68	69	66	68	66	69	67	69		
Columbiana	169	163	169	164	165	180	168	148	155	181	184	180	175		
Coshocton	151	149	151	174	152	145	138	163	158	153	152	139	136		
Guernsey	56	49	52	53	57	59	60	60	60	60	47	59	61		
Harrison	151	184	172	159	157	147	128	147	151	154	141	130	136		
Hocking	11	11	13	12	14	13	12	13	13	11	5	5	5		
Holmes	27	31	32	33	24	24	23	24	25	25	31	30	25		
Jackson	59	83	82	81	64	46	34	40	47	50	60	64	62		
Jefferson	169	198	211	206	203	205	194	161	147	137	120	124	128		
Lawrence	111	66	86	107	144	138	137	123	122	124	116	88	82		
Mahoning	30	45	44	45	34	26	25	25	25	25	23	23	24		
Meigs	537	566	569	568	564	565	560	556	497	499	499	499	500		
Monroe	202	230	231	231	229	229	230	225	169	165	163	165	159		
Muskingum	96	65	67	66	59	59	55	152	155	154	108	108	107		
Noble	256	274	277	277	309	301	291	197	209	218	244	243	234		
Perry	58	142	140	89	61	59	51	40	26	26	21	20	18		
Stark	50	48	50	51	57	55	54	43	46	49	51	48	45		
Tuscarawas	253	263	263	255	284	282	260	260	252	256	244	210	204		
Vinton	273	302	304	286	284	275	267	272	235	243	256	271	278		
Washington	2	4	5	5	1	2	2	0	0	0	3	3	2		
Wayne	5	5	5	5	5	5	5	4	4	4	4	4	4		
TOTAL	3,165	3,397	3,430	3,353	3,359	3,323	3,236	3,192	3,036	3,048	2,931	2,867	2,809		

¹Employment was estimated for mines not reporting employment. ^{2"}Other" includes all employees who do not belong in any other employment category, such as mobile equipment operators, mechanics, or general outside workers.

¹Employment was estimated for mines not reporting employment.

²For those operations reporting activity in more than one county, employment was evenly split (to the nearest whole employee) between the counties involved unless a bycounty breakdown was provided by the operator.

TABLE 12.—1991 Ohio coal-mine employment¹ in central preparation plants, central shops, etc., by county and month

						Nı	ımber of	employee	S				
County ²	Monthly average	January	February	March	April	May	June	July	August	September	October	November	December
Belmont	80	91	83	85	87	83	83	81	80	77	71	69	65
Carroll	2	3	3	3	3	3	3	0	0	0	2	2	1
Columbiana	11	11	11	11	11	11	11	11	11	11	13	13	12
Coshocton	39	40	40	41	38	38	38	39	39	40	40	38	38
Harrison	24	24	23	21	22	24	27	24	22	27	25	24	25
Jackson	12	15	15	15	17	17	5	9	9	9	10	10	10
Jefferson	15	18	16	15	17	17	18	13	12	12	13	13	14
Lawrence	32	26	30	32	32	33	35	35	34	32	32	34	27
Mahoning	8	9	9	9	7	7	6	7	8	7	7	8	8
Meigs	72	70	74	73	72	71	71	70	73	73	73	72	72
Monroe	43	49	49	50	49	50	50	49	35	35	35	35	35
Muskingum	67	36	36	37	27	27	27	125	122	121	83	83	83
Noble	141	175	176	173	181	181	180	88	85	85	123	123	123
Perry	2	7	3	3	1	1	3	1	1	1	0	0	1
Scioto	23	23	23	23	23	23	23	23	23	23	23	23	23
Stark	3	0	0	0	0	0	0	0	0	0	1	1	0
Tuscarawas	39	37	36	37	37	37	37	40	39	42	40	41	43
Vinton	104	111	113	112	106	106	107	99	93	95	103	102	102
TOTAL	714	745	740	740	730	729	724	714	686	690	694	691	682

TABLE 13.—1991 Ohio coal-mine employment¹ in supervisory, technical, and clerical positions, by county and month

						Ni	umber of e	employees	S				
County ²	Monthly average	January	February	March	April	May	June	July	August	September	October	November	December
Belmont	177	184	178	179	180	183	182	177	177	173	170	173	166
Carroll	23	23	22	24	26	25	24	25	24	24	21	22	21
Columbiana	21	22	20	19	22	23	21	21	21	21	21	21	21
Coshocton	64	53	52	58	69	66	64	72	69	68	65	63	64
Gallia	1	2	2	2	1	1	1	1	1	1	1	1	1
Guernsey	11	11	11	11	12	12	12	11	11	11	9	12	13
Harrison	37	45	43	41	42	39	36	35	35	37	31	29	31
Hocking	4	4	4	4	4	4	4	4	4	4	4	4	3
Holmes	3	3	4	3	4	3	4	4	3	4	3	2	3
Jackson	27	17	17	17	23	23	24	33	33	33	33	33	3
Jefferson	41	40	44	40	46	47	43	44	41	41	35	37	37
Lawrence	12	11	12	12	11	11	11	14	14	14	10	10	10
Mahoning	7	7	7	7	7	7	7	6	7	8	7	5	5
Meigs	201	220	219	215	214	213	214	213	185	182	179	179	180
Monroe	75	77	77	77	76	76	75	74	73	72	72	74	76
Muskingum	50	32	32	32	26	26	26	88	86	85	58	58	55
Noble	102	124	124	121	123	121	119	70	71	72	96	95	93
Perry	20	19	21	23	25	26	24	19	16	16	15	15	16
Scioto	13	13	13	13	13	13	13	13	13	13	12	13	13
Stark	7	9	9	9	6	7	7	6	6	6	6	6	6
Tuscarawas Vinton Washington Wayne	65 117 3 3	68 139 1 1	71 134 0 0	67 133 1 1	69 129 0 1	69 129 1 0	71 133 0 0	66 130 0 1	65 104 0 0	66 104 0 0	65 89 0	52 88 1 1	50 88 0 0
TOTAL	1,078	1,125	1,116	1,109	1,129	1,125	1,115	1,127	1,059	1,055	1,002	994	985

¹Employment was estimated for mines not reporting employment.

²For those operations reporting activity in more than one county, employment was evenly split (to the nearest whole employee) between the counties involved unless a bycounty breakdown was provided by the operator.

³Average fewer than one employee per month.

¹Employment was estimated for mines not reporting employment.
²For those operations reporting activity in more than one county, employment was evenly split (to the nearest whole employee) between the counties involved unless a bycounty breakdown was provided by the operator.
³Averages fewer than one employee per month.

TABLE 14.—1991 Ohio surface coal-mine reclamation employment¹, by county and month

		Number of employees													
County ²	Monthly average	January	February	March	April	May	June	July	August	September	October	November	December		
Belmont Carroll Columbiana Coshocton	19 2 7 49	9 1 4 10	10 1 4 12	10 2 5 10	16 5 4 67	20 5 4 65	27 5 5 61	29 0 15 64	30 1 9 64	21 0 12 64	29 0 9 61	17 0 9 62	14 0 7 49		
Guernsey Holmes Jackson Jefferson Mahoning Muskingum	1 3 4 6 5 27	0 0 3 2 0 19	0 0 3 2 0 18	0 0 3 2 0 19	6 3 1 3 9	2 6 3 1 10 10	1 6 3 2 9	2 2 3 12 6 52	3 2 3 16 6 49	2 2 3 11 9 49	2 5 9 9	1 2 5 8 7 28	1 2 5 10 0 26		
Noble Stark Tuscarawas Vinton TOTAL	62 3 26 3	62 1 8 3	62 0 8 3	62 0 6 3	75 3 12 4 209	84 4 27 4 245	84 3 21 4 241	51 3 39 0	52 3 33 0	48 3 45 0	63 2 44 3	57 4 38 3	49 5 36 3		

¹Employment was estimated for mines not reporting employment.

²For those operations reporting activity in more than one county, employment was evenly split (to the nearest whole employee) between the counties involved unless a bycounty breakdown was provided by the operator.

TABLE 15.—1991 Ohio coal-mine employment¹ in other positions², by county and month

						N	umber of	employee	s				
County ³	Monthly average	January	February	March	April	May	June	July	August	September	October	November	December
Athens Belmont Columbiana Coshocton Gallia	1 146 10 5 2	1 165 11 6 4	1 168 9 6 4	1 164 7 6 4	1 153 12 5 4	1 152 13 5	1 138 12 5 0	1 136 10 5 3	1 134 10 5 3	1 134 10 5 3	1 135 9 5 0	1 136 9 5	1 132 9 5 0
Guernsey Harrison Jackson Jefferson Lawrence	3 13 6 7	0 2 18 0 7	0 2 18 0 7	0 2 18 0 5	2 2 28 0 6	0 2 28 0 7	0 2 13 0 8	0 2 9 10 8	0 2 9 10 8	0 2 9 11 6	0 7 3 14 8	0 7 3 13 8	0 7 3 13 8
Mahoning Meigs Monroe Muskingum Noble	2 33 12 9 17	1 33 12 13 21	1 33 12 13 21	1 32 12 13 21	5 34 12 3 22	5 34 12 3 22	5 33 12 3 22	1 33 12 14 10	1 35 11 13 10	1 32 11 12 10	1 33 11 8 14	1 34 11 8 14	1 33 11 8 14
Perry Scioto Stark Tuscarawas Vinton	9 6 4 1 19	18 6 0 1 18	16 6 0 1 18	10 6 0 1 18	8 6 1 1 19	8 6 1 1 18	8 6 0 1 18	7 6 0 3 18	6 6 0 2 20	6 6 0 1 19	6 6 0 1 20	6 6 0 1 19	5 6 0 1 20
TOTAL	301	337	336	321	324	318	287	288	286	279	282	282	277

¹Employment was estimated for mines not reporting employment.

²"Other positions" includes all employees who do not belong in any other employment category, such as mobile equipment operators, mechanics, or general outside workers.

³For those operations reporting activity in more than one county, employment was evenly split (to the nearest whole employee) between the counties involved unless a bycounty breakdown was provided by the operator.

⁴Averages fewer than one employee per month.

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TABLE 16.—1991 Wage and salary payments to Ohio coal-mine employees, by county and occupational group

			Wage and sala	ry payments (nearest	whole dollar)2		
County ¹	All occupations	Underground production employees	Surface production employees	Central preparation plant, central shop, etc.	Supervisory, technical, and clerical	Reclama- tion	Other
Athens Belmont Carroll Columbiana Coshocton	\$377,559 33,702,190 2,505,752 7,066,409 11,695,956	\$11,952,481 3,205,649	\$355,771 4,981,573 1,772,750 2,260,156 5,999,148	\$2,668,533 75,624 448,598 1,011,679	\$8,666,204 624,428 701,744 2,949,559	\$212,806 32,950 151,181 1,600,560	\$21,788 5,220,593 299,081 135,010
Gallia Guernsey Harrison Hocking Holmes	77,596 2,597,563 8,520,332 315,489 948,871	1,467,570	2,128,385 4,299,385 230,342 779,223	1,044,371	25,520 453,773 1,578,045 85,147 102,684	14,190 66,964	52,076 1,215 130,961
Jackson Jefferson Lawrence Mahoning Meigs	3,036,290 8,872,436 5,209,197 1,379,396 39,212,996	23,704,686	1,478,620 6,301,288 3,985,687 844,711	378,294 556,166 838,676 193,633 2,936,409	767,520 1,792,407 275,194 130,884 11,206,524	21,366 148,647 149,000	390,490 73,928 109,640 61,168 1,365,377
Monroe Muskingum Noble Perry Scioto	15,809,052 8,243,683 22,271,072 2,205,914 1,215,959	8,470,564 231,406	2,874,767 9,880,261 956,043	2,482,896 2,078,064 4,769,010 18,334 526,000	4,113,895 2,265,521 4,943,073 586,020 517,500	813,805 2,120,820	741,697 211,526 557,908 414,111 172,459
Stark Tuscarawas Vinton Washington Wayne	1,597,937 9,411,649 21,876,291 147,657 110,140	7,610,159	1,420,116 6,200,258 3,010,934 133,988 99,805	11,963 1,077,736 3,686,448	128,342 1,573,170 6,768,840 13,669 10,335	36,853 519,119 47,969	663 41,366 751,941
TOTAL	\$208,407,386	\$56,642,515	\$59,993,211	\$24,802,434	\$50,279,998	\$5,936,230	\$10,752,998

¹For those operations reporting activity in more than one county, wage and salary payments were evenly split between the counties involved unless a by-county breakdown was provided by the operator.

²For those operations reporting only a total wage and salary payment to all workers, an equal pay rate was assumed for all employees. In cases where quarterly employment was reported but wage and salary payments were not, wage and salary payments for that quarter were estimated from reported payments in the other quarters to arrive at the annual figure.



Rail-loading coal tipple at the Ohio Collieries Co. Mine No. 268, located northwest of Rendville, Perry County, circa 1920. Photo courtesy of Mark Wharton.

INDUSTRIAL MINERALS

Industrial minerals, other than mineral fuels, were produced in a total of 85 Ohio counties in 1991. The combined value of all nonfuel industrial minerals sold in 1991 was \$413,197,118.

The average annual employment reported in 1991 for industrial mineral operations was 2,883 production employees and 1,253 nonproduction employees. In 1991, 353 companies produced or sold industrial minerals from 514 operations. Thirty of these companies produced more than one mineral commodity from 40 operations.

The multiple-commodity operations employed 154 production workers and 30 nonproduction workers. Fifteen operations produced clay and shale and employed 42 production workers and 13 nonproduction workers; 2 operations produced limestone and shale and employed 35 production workers and 2 nonproduction workers; 6 operations produced limestone and clay and employed 33 production workers and 1 nonproduction worker; 1 operation produced limestone, clay, and shale and employed 2 production workers and 1 nonproduction worker; 1 operation produced sand and gravel and clay and employed 1

production worker only; 3 operations produced sandstone and sand and gravel and employed 11 production workers and 5 nonproduction workers; 3 operations produced sand and gravel and limestone and employed 15 production workers and 3 nonproduction workers; 1 operation produced sand and gravel and peat and employed 1 production worker and averaged fewer than 1 nonproduction worker; 1 operation produced sand and gravel, clay, and peat and employed 1 production worker only; 2 operations produced limestone, sandstone, clay, and shale and employed 13 production workers and 5 nonproduction workers. The 154 multiple-commodity production employees worked an average of 192 days in 1991. Total wages reported in 1991 for 154 production employees and 30 nonproduction employees at multiple-commodity operations were \$4,410,452. The average annual wage was \$23,970.

The total reported wages for all employees at industrial mineral operations in 1991 were \$112,437,413. The average annual wage, based on those employees for whom wages were reported, was \$27,205.

TABLE 17.—1991 Value of Ohio industrial minerals

Commodity	Sales (tons)	Change from 1989 (tons)	Value ¹ (dollars)	Percent of total value
Limestone and dolomite	50,247,142	-2,450,710	\$188,611,303	45.7
Sand and gravel	42,793,746	-1,263,811	144,384,916	34.9
Salt	2,670,240	-1,468,177	42,106,635	10.2
Sandstone and conglomerate	1,679,512	-146,181	25,317,526	6.1
Clay	2,621,465	+1,043,612	7,628,331	1.8
Shale	1,839,455	+464,841	3,137,442	0.8
Gypsum	199,857	-4,682	1,898,642	0.5
Peat	18,595	-27,102	112,323	<0.1
TOTAL	102,070,012	-3,852,210	\$413,197,118	100.0

¹The FOB value of industrial minerals sold was estimated for those mines which failed to report this information and for those producing material for captive use. These estimates were calculated using a countywide- or statewide-average price per ton based on reported FOB values.



Orton Hall on the campus of The Ohio State University was constructed in 1893 entirely of Ohio stone from 40 of Ohio's 88 counties. Photo from a postcard (no postmark) in the collection of David A. Stith.



Aggregate being carried by conveyor belt to Anderson Concrete Corp. batch plant for the manufacture of portland cement concrete. Plant is located in Franklin County. Photo taken during 1992 Ohio's Mineral Industries Teachers Workshop.



Plant and pit crew of Seneca White Lime Co. at Fostoria, Seneca County, circa 1905. Photo courtesy of Mark Wharton.

TABLE 18.—1991 Employment at Ohio industrial mineral operations, by county and commodity

	iple	Non- pro- duction	П	1	23		4								-	1	
	Multiple	Pro- duction	П	7	2		ro	ಣ			12	C3			ю 4 г	- 27 -	
	ıt	Non- pro- duction															
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	Sandstone and conglomerate	Pro- duction						വ	Н	က		12			φ 🖂	30	
	d d el	Non- pro- duction	≈ 4 €	7 2	49	16 6	· -	16	7	en	55	7 7 21	68		O 4 W	25 3 1	
	Sand and gravel	Pro- duction	4 21 13	5 6 8	73	16 32 5) [-	о П	4 2	1 22 4	\$ 86	3 39	59	9	9 14 7	30 94 23	
	tone d nite	Non- pro- duction	28	- 70 E		2	10	က	က	7 24	15	2 22	3 10		19	63	
	Limestone and dolomite	Pro- duction	21 26	o 21		1	18	8 44	0 0	98	9 20	14	28		20	ಬ ಗು	
	12	Non- pro- duction	288 4 4 4	16	50	18	10	34	110	25	71	7 73 26 2	68	00	10	27 4 52 13	
	Total	Pro- duction	21 30 22 14	15 22 14	79	33	18	25 45	30	110	180	38 36 4	28 8 8	0 9	20 12 21 8	11 60 64 11 26	
	County		Adams Allen Ashland Ashtabula	Athens Auglaize Relmont	Brown Butler Carroll	Champaign Clark	Clinton	Coshocton	Cuyahoga Darke Defiance	Delaware Erie	Farineld Fayette Franklin	Fulton Gallia Geauga Greene Guernsey	Hamilton Hancock Hardin	Harrison Henry	Highland Hocking Holmes Huron	Jackson Jefferson Knox Lake Lawrence	

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26 22 22 23 33 4 4 9 16	32 22 17	288 7 4	41 8 8 4 4	13 50 6 18 27	23 111 24 4	0 0 111 111	3 15	1,253
36 51 51 46 45 45 111 111	63 9 87 87	10 77 30 65	18 120 23 7 7	32 145 14 67	65 30 5 91	14 21 14 48	6 27 159	2,883
Logan Lorain Lorain Lucas Madison Marion Medina Meigs Merer Miami	Montgomery Morgan Morrow Muskingum	Noble Ottawa Paulding Perry Pickaway	Pike Portage Preble Putnam Richland	Ross Sandusky Scioto Seneca Shelby	Stark Summit Trumbull Thscarawas Union	Van Wert Vinton Warren Washington Wayne	Williams Wood Wyandot	TOTAL

IFor those operations reporting activity in more than one county, employment was evenly split (to the nearest whole employee) between the counties involved unless a by-county breakdown was provided by the operation.

Sherrages fewer than one employee per month.

Shirt sharps fewer

LIMESTONE AND DOLOMITE

Limestone and dolomite were sold or produced by 83 companies at 126 operations in 52 Ohio counties during 1991. Sales of limestone and dolomite totalled 50,247,142 tons; Erie, Franklin, Wyandot, Sandusky, and Ottawa Counties accounted for 38.2 percent of those sales. Reported known production totalled 53,944,380 tons.

Lime produced from Ohio limestone and dolomite totalled 1,424,579 tons in 1991 and came from five operations in Ottawa, Sandusky, and Wyandot Counties. Ohio ranks second nationally in the production of lime, accounting for 12 percent of the nation's annual production, following Missouri. Ohio also ranks tenth in the production of crushed stone, which includes crushed sandstone, and accounts for 4 percent of the nation's annual production. The top four

 $^{^5} Includes$ reported and estimated values. See footnote 1, p. 6.



FIGURE 6.—Sales of limestone and dolomite in Ohio in 1991, by county.

states, in descending order of production, are Pennsylvania, Texas. Florida, and Illinois.⁴

The total value⁵ of limestone and dolomite sold in 1991 was \$188,611,303, Average price per ton was \$3.75.

An annual average of 1,262 employees worked an average of 206 days to produce limestone and dolomite. Total wages reported in 1991 for 1,262 production employees and 388 nonproduction employees were \$46,614,149. The average annual wage, based on those employees for whom wages were reported, was \$28,251. An additional 98 employees mined limestone and dolomite along with one or more other mineral commodities.

Primary uses for crushed and broken limestone and dolomite were road construction/resurfacing and building. Other major uses for various forms of limestone and dolomite included stone for portland cement concrete, stone for asphaltic concrete, riprap, portland cement manufacture, flux stone, and aglime (a noncalcined product).

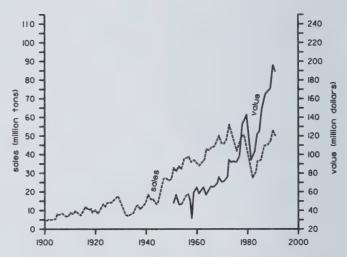


FIGURE 7.—Sales and value of limestone and dolomite in Ohio.
Value line dashed where data not available.

TABLE 19.—1991 Production of lime from Ohio stone, by county and type

County	Total tons	Building (tons)	Chemical and industrial (tons)	Refractory (tons)	Other (tons)	
Ottawa	91,023	46,005	45,018			
Sandusky	1,242,713		911,505		331,208	
Wyandot	90,843		90,843			
TOTAL	1,424,5791	46,005	1,047,366	0	331,208	

¹Burning produced a 48.0 percent weight loss.

⁴Information from U.S. Bureau of Mines.

TABLE 20.—1991 Ohio limestone and dolomite sales, by county and type

		Unspec- ified/ other	157,365	609	161.279	136,206	3,154			10,000					86,708		555,321
Tons sold		Raw stone for burning				-					182,046			2,383,808		173,376	2,739,230
		Agricultural stone (aglime)	45,409 4,559 2,789	27,419	3.639	123,661 61,940	6,740 7,819 82,952	25,730	128,169 31,139 20,085 48,944 76,230	57,859	38,282	53,429	29,181	199,644	55,960 45,184 9,081	87,683	1,785,058
	· ·	Stone for portland cement manufacture					222,902		472,430	102,296 580,296		683,066					2,060,990
		Dimension	13,300						1,721				2,742	5,440			119,131
		Unspecified/ other	1333,583	99,798	155,818	20,169	1,048	57,414	128,169 1,153,104 1,487 148,943 46,174	69,484 43,620 10.052	95,772	53,430	28,410	16,736	27,634 446,873 168,672 85,126	278,706 240,399	3,646,376
		Railroad ballast	36,605		93	84,709	499,295	159,273	2,206	57,860		53,428		36,211	612	107,084	1,272,796
		Commer- cial building	83,245 866,966 381,254	298,400	1,409,970	27,542 585,229	513,888 116,765	1,275	128,167 1,677 637,378 48,945	57,860	117,857	53,428	83,046	9,697 1,577 124,435		1,661,005	8,016,875
	stone	Road construc- tion/resur- facing	1,386,278 24,900 342,439 149,969	129,754 75,602 88,687	425,272	2,145,813 242,301 3,678,963	520,423 83,537 105,337 59,531 818,702	111,312 671,095 22,813 673 263,008	1,402,133 1,563 196,334 48,946 452,791	665,804 910,855 95,928	1,487,843	336,560 185,765	13,955 215,875 44,410	211,696 72,706 1,388,512 183,241 33,840	162,138 111,877 76,480 108,352 105,331	374,857 282,767	21,404,034
	Crushed and broken stone	Stone for asphaltic concrete	178,201 18,000 4,138	180,126	71,083	575,392	68,580	49,803	128,167 114,488 34,284 48,945 36,707	57,859	107,207	53,427	36,313 10,896	1,000	70,540	156,950 238,883	2,333,385
	Crushe	Stone for portland cement concrete	75,887	70,484		1,127,928	19,050	95,533	128,168 1,900 19,729 48,945 44,782	57,859	739,214	53,427	59Z,0c	38,647 13,614 24,770	68,780	156,951 197,103	3,072,521
		Flux	7,009	000					29,488		53,406	53,427		7,234		674,345	967,294
		Riprap	46,799 1,520 41,978 16,206	31,325	16,726	209,005	1,799 369 29,223	1,000	128,717 3,800 18,437 48,944 4,470	57,858	406,571	56,817	0,550 15,481 9,170	1,402 749,017 23,309 47,319	4,091 2,939 45,097	159,884 108,178	2,370,059
		Total	1,947,607 1,097,474 384,417 574,437 130,986	600 129,754 755,735 88,687	425,272 2,450,997	4,142,847 290,012 4,265,671	520,423 83,537 1,139,369 176,665 934,170	111,312 830,368 81,227 1,948 531,931	2,043,521 1,276,532 909,855 442,613 614,412	69,484 665,804 1,243,771 105,980	3,007,870	713,944	242,252	251,745 870,004 1,530,564 391,206 33,840	193,863 561,689 430,181 193,478 105,331	1,127,348	42,987,412
		Total, all types	1,993,016 1,272,698 384,417 577,226 130,986	129,754 783,154 89,296	425,272	4,402,714 351,952 4,265,671	743,325 83,537 1,146,109 184,484 1,020,276	111,312 856,098 81,727 1,948 531,931	2,171,690 1,780,101 929,940 491,557 692,363	79,484 768,100 1,881,926 105,980	3,228,198	1,450,439	271,433 58,062	251,745 3,453,456 1,799,476 391,206 33,840	193,863 617,649 475,365 289,267 105,331	1,215,031 3,868,944	50,247,142
		County	Adams Allen Athens Auglaize Belmont	Carroll Clark Clinton Coshocton	Darke Delaware	Erie Fayette Franklin	Greene Guernsey Hancock Hardin Highland	Holmes Jackson Lawrence Licking Logan	Lucas Mahoning Marion Mercer Miami	Monroe Montgomery Muskingum Noble	Ottawa	Paulding Perry	r ickaway Pike Preble	Putnam Sandusky Seneca Shelby Stark	Tuscarawas Union Van Wert Vinton Wayne	Wood	TOTAL

SAND AND GRAVEL

Sand and gravel were sold or produced by 239 companies at 306 operations in 64 Ohio counties during 1991. Sales⁶ of sand and gravel totalled 42,793,746 tons, of which sand comprised 21,216,165 tons and gravel comprised 21,577,581 tons. Ohio ranks fourth nationally in the production of construction sand and gravel, accounting for 5 percent of the nation's annual production, following California, Michigan, and Texas⁷. Hamilton, Franklin, Butler, Portage, and Greene Counties led in sales, accounting for 45.8 percent of the total. Reported known production⁶ of sand and gravel totalled 43,791,194 tons in 1991.

A total of 171,635 tons of sand and 1,939 tons of gravel were dredged from Lake Erie in 1991. The Maumee Bay and Maumee River areas are no longer producing sand or gravel.

The total value⁸ of sand and gravel sold in 1991 was \$144,384,916. Average price per ton was \$3.37.

An annual average of 1,129 employees worked an average of 180 days in 1991 to produce sand and gravel. Total wages of \$43,355,716 were reported for 1,129 production employees and 595 nonproduction employees. The average annual wage, based on those employees for whom wages were reported, was \$25,148. An additional 24 employees mined sand and gravel along with one or more other mineral commodities.

Road construction/resurfacing, building, portland cement concrete, and asphaltic concrete were the major uses for Ohio sand and gravel in 1991.



^{● 1,000,000 - 4,999,999} tons △ 100,000 - 249,999 tons

FIGURE 8.—Sales of sand and gravel in Ohio in 1991, by county.

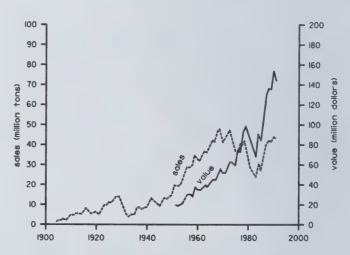


FIGURE 9.—Sales and value of sand and gravel in Ohio. Value line dashed where data not available. Figures from 1984 to 1991 include Lake Erie dredged material.

⁶Please note—Sales and production figures for sand include material dredged from Lake Erie.

7Information from U.S. Bureau of Mines.

⁸Includes reported and estimated values. See footnote 1, p. 6.

O 500,000 - 999,999 tons
■ 50,000 - 99,999 tons

^{▲ 250,000 - 499,999} tons □ <50,000 tons



Reclamation occurring simultaneously with production at the American Aggregates Corp. Columbus #210 sand and gravel operation in Franklin County. Photo taken during 1991 Ohio's Mineral Industries Teachers Workshop.



General view of the Zanesville Washed Gravel Co., south of Dresden, Muskingum County. Date of photo unknown.

TABLE 21.—1991 Ohio sand and gravel sales, by county and type

	er/ cified	Gravel	215	45,987 38,092	8.841	337,361 40,723	130,469	56,038 45,195 48,639 416 19,189	7 007	312 4,888 165,067	1,423 61,944 253,372 281,472	65 138	15,616 9,770 249,957	950	176,294 83,055 127,788	20,209	28,425	116,119	353,646	
	Other/ unspecified	Sand	00 00 00	102,613		340,590	2,457	57,606 43,268 86,941 416 17,797		26,576 3,684 150,000	11,489 62,705 235,584 536,077	887 67	38,785 12,022 212,578	5,600	9,505 41,287 205,581	20,209	17,192 89,620	75,832	92,569	
	Foundry		7,202					17		1,043	901									
	Filtration	Gravel				1,397	15,907	754			35,354	814	17,902			6,800			9,297 4,825 6,378	
	Filtr	Sand	19,508	1,000				70			2,241		3,257		376 18,344	3,819	5,163		31,126	
	ad iction/ acing	Gravel	60 596	1,000	17.169	1,640,093	387,483	40,761	17,334	1,189,337	10,125 628,761 2,097,512	6.093	26,398 4,105 61,352		214,908		140,552 27,174	215,737	192,538 18,407 42,109	
	Road construction/ resurfacing	Sand	37 993	19,438			92,010 253,295	57,540	3,474	76,443	19,895 401,644 1,357,473		9,914		83,473		225,097	162,233	132,127 37,985 584	
p	altic ete	Gravel		12,377	40.583		184,846	10,787	101	24,320 269,394	20,915		17,159		80,400		4,281		53,929	
Tons sold	Asphaltic concrete	Sand	7,575	4,530	76.233	24,404	154,941	13,299		24,843	21,978 80,145	182,190	39,148 5,366 106,880	14,700	166,000		228,872 314,080		46,378	
	and ent ete	Gravel		100 795	35.019	39,398	142,499	7,284		205,465	59,930 37,939	9809	77,338		35,900		11,333		169,284	
	Portland cement concrete	Sand		39,300	56.253	43,120	111,486	3,837		387,566	148,058 42,528 115,849	13 400	31,160 31,160 81,363 60,712	2,700	110,104 58,346		11,334		103,654 37,985	
	ing	Gravel	6,680	46,799		374,467	40,753 66,319	3,643		99,710	66,868 211,015 708,877 1,266		7,586	17,500	181,903	8,249 6,800	142,406 57,927	89,121	127,546 18,407 46,965	
	Building	Sand	37 843	18,334	00,100	28,679	38,470	6,658		173,768 199,954	155,400 32,932 337,932	400	2,604 3,601 7,990	1,100	127,641 18,038 208,406	1,424 3,819	18,593 121,040 25,466	120	44,451 37,983 18,293	
	Total gravel)	6,895	93,936	101.612	2,392,716	927,523	56,038 45,195 111,868 416 19,189	17,435	2,736,740	1,423 174,291 1,173,993 3,126,635 1,266	78 911	161,999 13,875 575,374	18,450	689,405 86,597 127,788	28,458	39,758 287,239 246,553	420,977	906,240 78,455 102,139	
	Total		34,285	165,777 78,942	132.486	1,645,922	168,389	57,606 43,268 168,367 17,797	3,474	27,619 278,738 1,697,873	11,489 386,058 734,666 2,430,618	182,190	111,697 105,609 398,074	24,100	497,099 136,015 413,987	21,633	47,119 669,792 343,926	238,185	419,179 183,062 18,877	
	Total sand and gravel		41,180	259,713 131,063	234.098	4,038,638	1,488,172	113,644 88,463 280,235 832 36,986	20,909	27,931 407,656 4,434,613	12,912 560,349 1,908,659 5,557,253 1,266	182,190	273,696 119,484 973,448	42,550	1,186,504 222,612 541,775	50,091 21,238	86,877 957,031 590,479	659,162	1,325,419 261,517 121,016	
	County		Allen	Ashtabula Athens	Augiaize	Butler Carroll	Clark	Clermont Columbiana Coshocton Crawford Darke	Defiance	Delaware Erie Fairfield Franklin	Gallia Geauga Greene Hamilton Hardin	Henry	Holmes Huron Knox	Lake	Licking Logan Lucas	Madison Mahoning	Marion Medina Meigs	Miami	Montgomery Morgan Morrow	

66,570 17,769 83,400 363,897 750	16,966 123,509 63,288 102,407 234,489	98,476 42,961 492,794 26,826	22,715	4,730,529
67,777 14,308 83,400 624,639	10,770 100,000 92,258 90,500 151,515	98,886 23,058 52,482 299,311 11,783	90,867 5,965 15,605	4,601,970
			67,650	76,813
		3,036	6,146	145,771
981		1,121	84 5,103	151,862
22,350 139,474 2,375 198,318 63,477	11,807 36,661 77,771 229,328	7,984 5,214 289,844 214,559 14,130	54,108 25,051 707	8,601,398
8,303 96,922 2,285 217,951 19,321	184 47,882 6,508 84,147	2,085 9,882 221,184 149,103 13,586	45,582	35,470
66,490 35,767 86,127 15,868	4,270 20,241 32,575 200,551	3,255	40,000	1,768,939
80,943 44,117 354,938 6,440	27,300 215,662 34,259 174,018	7,236 131,762 133,109	79,083 72,616 43,508	51,080
8,201 12,669 65,259 31,740	4,730 101,583 82,628	37,232	30,000	1,939
12,469 109,533 749,611 12,879	335,667 101,581 137,053	59,526 75,763 127,821	114,375 136,477 117,283	85,085 3,769,694
16,883 460,062 47,608	206,205 30,063 8,950 10,000 50,509	109,773 20,856 263,666 57,085 48,694	83,493 39,009 8,467	4,818,962
2,110 11,763 520,917 26,067	35,559 67,538 41,583 10,000 156,849	272,816 88,939 283,883 49,160 41,185	6,047 5,448 35,894	3,528,081
163,611 157,243 151,094 1,173,663 159,443	239,248 190,233 174,980 246,565 797,505	256,501 26,070 883,833 764,438	236,462 110,127 80,029	1,939
172,583 111,230 251,098 2,468,056 65,591	73,813 215,420 691,678 236,340	441,670 329,404 878,143 497,574 66,554	335,954 288,240 15,605 207,003	171,635
336,194 268,473 402,192 3,641,719	313,061 405,653 866,658 482,905	698,171 355,474 1,761,976 1,262,012 159,459	572,416 398,367 15,605 287,032	173,574 42,793,746
Muskingum Pickaway Pike Portage Prehla	Richland Ross Scioto Shelby	Summit Trumbull Tuscarawas Warren Washington	Wayne Williams Wood Wyandot	Lake Erie TOTAL

TABLE 22.—1991 Ohio Lake Erie sand and gravel production

Production1	Short tons	112,012 59,623 1,939	173,574
Proc	Cubic yards	82,972 44,165 1,436	128,573
V	Mea	Lake Erie Fairport (sand) Vermilion-Lorain Inner (sand) Vermilion-Lorain Outer (gravel)	TOTAL

Production reported in cubic yards; converted to tons in the ratio of 1 cubic yard equals 1.35 short tons.

SANDSTONE AND CONGLOMERATE

Sandstone and conglomerate were sold or produced by 18 companies at 27 operations in 18 Ohio counties during 1991. Sales totalled 1,679,512 tons; Geauga, Perry, Ross, Knox, and Columbiana Counties accounted for 88.1 percent of that total. Crushed sandstone and conglomerate accounted for 1,634,550 tons, and dimension stone accounted for 44,962 tons of the total sales. Reported known production of sandstone and conglomerate was 1,862,155 tons in 1991.

The total value9 of sandstone and conglomerate sold in

DEFENSE OF THE PROPERTY OF THE

FIGURE 10.—Sales of sandstone and conglomerate in Ohio in 1991, by county.

1991 was \$25,317,526. Average price per ton was \$14.54 for crushed stone and \$38.71 for dimension stone.

An annual average of 144 employees worked an average of 133 days in 1991 to produce sandstone and conglomerate. Total wages earned in 1991 for 144 production employees and 101 nonproduction employees were \$8,082,865. The average annual wage, based on those employees for whom wages were reported, was \$32,991. An additional 24 employees mined sandstone and conglomerate along with one or more other mineral commodities.

Crushed stone was used primarily for glass sand, foundry sand, and aggregate. Dimension stone was used primarily for rough architectural purposes, finished stone, and rubble.

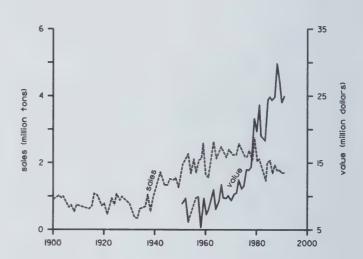


FIGURE 11.—Sales and value of sandstone and conglomerate. Value line dashed where data not available.

⁹Includes reported and estimated values. See footnote, p. 6.

 $TABLE\ 23.-1991\ Ohio\ sales\ of\ crushed\ sandstone\ and\ conglomerate,\ by\ county\ and\ type$

							Tons s	old						
County	Total	Foundry sand	Glass sand	Metallurgical pebble	Refractory	Riprap	Aggregate	Silica flour	Polishing/ grinding sand	Fire and furnace sand	Engine sand	Frac sand	Con- struction	Other/ unspecified
Columbiana Cuyahoga Erie	84,482 6,750 862					862	61,212							23,270 6,750
Geauga Huron	825,872 11,994	155,576	132,804	105,596	5,500	11,994	68,985		52,689	14,500	17,888	13,522	58,637	200,175
Knox Lorain	122,690 17,954	16,645	55,645			9,369	8,585	40,446			4,455	4,943		556
Mahoning Perry Pike	25,211 243,464 32,989	30,682 523	125,014	3,422				72,447					24,420	25,211 15,321 4,624
Ross Summit	202,517 25,942	57,210	82,047				25,942				22,778		6,947	33,535
Trumbull Tuscarawas Washington	11,509 20,210 2,104					4,661 2,104	11,509			12,898			2,651	
TOTAL	1,634,550	260,636	395,510	109,018	5,500	28,990	176,233	112,893	52,689	27,398	45,121	18,465	92,655	309,442

 ${\it TABLE~24.-1991~Ohio~sales~of~dimension~sandstone~and~conglomerate,~by~county~and~type}$

		Tons sold												
County	Total	Refractory	Rough construction	Rubble	Grindstones	Rough architectural	Finished	Curbing	Flagging	Other/ unspecified				
Coshocton Erie Holmes Knox	18,301 1,388 72 1,286	33		373		18,301 72 1,286	943		39					
Lorain Scioto	5,558 18,357	133		1,490			3,773		162	18,357				
TOTAL	44,962	166	0	1,863	0	19,659	4,716	0	201	18,357				

CLAY

Clay was sold or produced by 37 companies at 48 operations in 23 Ohio counties during 1991. Clay sales (including material for captive use) totalled 2,621,465 tons; Stark, Tuscarawas, Portage, Paulding, and Greene Counties accounted for 81.8 percent of the total sales. Ohio ranks first nationally in the production of common clay and shale, accounting for 8 percent of the nation's annual production, followed by Texas, North Carolina, and Alabama. 10 Reported

¹⁰Information from U.S. Bureau of Mines.

known production of clay was 2,572,179 tons. The total value¹¹ of clay sold (including material for captive use) in 1991 was \$7,628,331. Average price per ton was \$2.91

An annual average of 53 employees worked an average of 82 days in 1991 mining clay. Total wages reported in 1991 for 53 production employees and 16 nonproduction employees were \$996,711. The average annual wage, based on those employees for whom wages were reported, was \$14,445. An additional 92 employees mined clay along with one or more other mineral commodities.

Clay mined in Ohio in 1991 was largely for captive use in the production of common clay products, in the landfill

industry, and for cement manufacture.

TABLE 25.—1991 Ohio clay sales, by county and type

					Tons sol	d			
County	Total	Common clay products	Glazed ware	Vitrified products	Cement manufacture	Refractories	Construction	Landfill use	Other/ unspecified
Ashtabula Athens Auglaize Belmont Butler	20 1,084 3,216 750 91,482	3,216 91,482					20 750		1,084
Coshocton Geauga Greene Hocking Holmes	2,429 6,365 164,711 28,604 15,686	2,429 15,686		28,604	164,711				6,365
Jackson Lake Lawrence Lucas Muskingum	49,695 41,744 15,068 13,345 19,149	45,810 3,568 15,129		4,020		3,885		41,744 13,345	11,500
Ottawa Paulding Perry Pike Portage	142,000 206,850 37,529 1,153 503,234	37,529			206,850			142,000	1,153 503,234
Stark Tuscarawas Wyandot	680,250 588,316 8,775	10,731 290,033 8,775		56,965		22,241	218,747	669,519	330
TOTAL	2,621,465	524,388	0	89,589	371,561	26,126	219,517	866,608	523,676

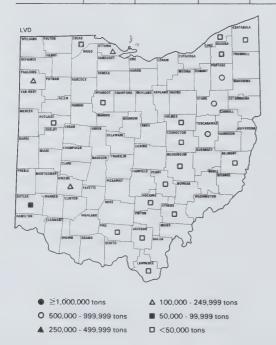


FIGURE 12.—Clay sales in Ohio in 1991, by county.

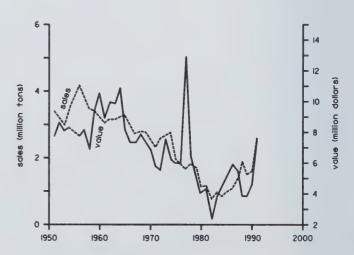


FIGURE 13.—Sales and value of clay in Ohio. Value line dashed where data not available.

¹¹Includes reported and estimated values. See footnote 1, p. 6.

SHALE

Shale was sold or produced by 24 companies at 37 operations in 19 Ohio counties during 1991. Shale sales (including material for captive use) totalled 1,839,455 tons; Stark, Tuscarawas, Cuyahoga, Marion, and Mahoning Counties accounted for 88.4 percent of the total sales. Reported known production of shale was 1,930,713 tons. The total value 12 of shale sold (including material for captive use)

¹²Includes reported and estimated values. See footnote 1, p. 6.

in 1991 was \$3,137,442. Average price per ton was \$1.70. An annual average of 34 employees worked an average

An annual average of 34 employees worked an average of 129 days in 1991 mining shale. Total wages reported in 1991 for 34 production employees and 5 nonproduction employees were \$591,160. The average annual wage, based on those employees for whom wages were reported, was \$15,158. An additional 92 employees mined clay along with one or more other mineral commodities.

Shale mined in Ohio in 1991 was largely for captive use in the production of common clay products, in the landfill industry, and for construction.

TABLE 26.—1991 Ohio shale sales, by county and type

				Tor	ns sold			
County	Total	Common clay products	Vitrified products	Cement manufacture	Lightweight aggregate	Construction	Landfill use	Other/ unspecified
Ashland Ashtabula Belmont Columbiana Coshocton	1,172 200 3,930 40,327 20,280	1,172 37,383 20,280	2,944			200 3,930		
Cuyahoga Harrison Hocking Holmes Licking	192,104 24,534 13,654 6,474 22,182	6,474	24,534 13,654 22,182		192,104			
Mahoning Marion Medina Muskingum Noble	104,254 153,110 38,707 14,211 1,505	153,110 38,707 1,320 1,505		104,254 12,891				
Perry Richland Stark Tuscarawas	18,742 6,555 599,501 578,013	18,742 6,555 269,614	4,037			73,444 304,359	526,057	
TOTAL	1,839,455	554,865	67,351	117,145	192,104	381,933	526,057	0



FIGURE 14.—Shale sales in Ohio in 1991, by county.

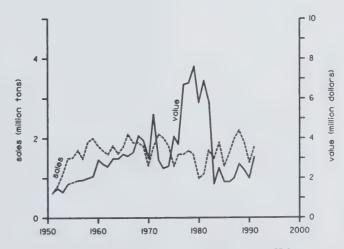


FIGURE 15.—Sales and value of shale in Ohio. Value line dashed where data not available.

SALT

Salt was produced by 3 companies at 5 operations in 5 Ohio counties during 1991. Ohio is the fourth-largest salt-producing state in the nation, following Louisiana, Texas, and New York. ¹³ Rock salt sales totalled 1,931,131 tons from 2 underground mines, one each in Cuyahoga and Lake Counties. Three brining operations, one each in Licking, Summit, and Wayne Counties, sold a total of 21,177 tons of salt in brine and 717,932 tons of evaporated salt. Reported known production of salt was 2,172,911 tons in 1991. Total sales of salt in 1991 amounted to 2,670,240 tons with a total value ¹⁴ of \$42,106,635. Average price per ton for all salt sold in 1991 was \$15.77. Average price per ton of rock salt was \$16.34 and of salt in brine and evaporated salt was \$14.29.

An annual average of 92 employees worked an average of 260 days in 1991 to produce salt. Total wages in 1991 for 92 production employees and 115 nonproduction employees were \$7,973,853. The average annual wage in 1991 was \$38,521. The primary use for Ohio salt in 1991 was ice control. Salt was also used as an additive in animal feed, for cattle blocks, and as a commercial and residential water-softening agent.

GYPSUM

Gypsum was produced by 1 company at 1 operation in Ottawa County during 1991. Gypsum production and sales

(all material was for captive use) totalled 199,857 tons. Ohio ranks fifteenth out of 20 states nationally in gypsum production. The top four states, in descending order of production, are Iowa, Oklahoma, Michigan, and Texas. ¹³ The reported value ¹⁴ of the gypsum sold was \$1,898,642. Average price per ton was \$9.50.

An annual average of 13 employees worked 274 days in 1991 producing gypsum. Total wages reported in 1991 for 13 production employees and 2 nonproduction employees were \$412,477. The average annual wage in 1991 was \$27,498. The sole use of gypsum from this operation is for the manufacture of wallboard.

PEAT

Peat was produced by 4 companies at 4 operations in 3 Ohio counties during 1991. Peat sales (including material for captive use) totalled 18,595 tons. Champaign, Portage, and Williams Counties accounted for 100 percent of the total sales. The total value of the peat sold in 1991 was \$112,323. Average price per ton was \$6.04. Reported known production was 16,600 tons.

An annual average of 2 employees produced peat in 1991. There were no wages given for the 2 production employees and 1 nonproduction employee which were reported. One additional employee produced peat along with one or more other mineral commodities. Most peat operations are owner operated. Therefore, reported employment information is limited.

Peat produced in Ohio was used for mulch, worm culture, and legume inoculation.

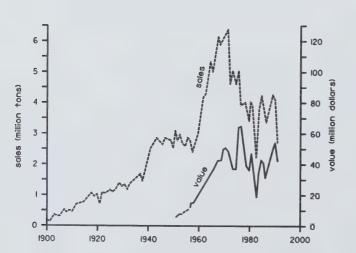


FIGURE 16.—Sales and value of salt in Ohio. Value line dashed where data not available.

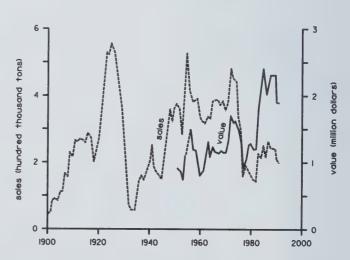


FIGURE 17.—Sales and value of gypsum in Ohio. Value line dashed where data not available. Some figures were calculated because actual figures were not reported in order to maintain confidentiality.

¹³Information from U.S. Bureau of Mines.

¹⁴Includes reported and estimated values. See footnote 1, p. 6.

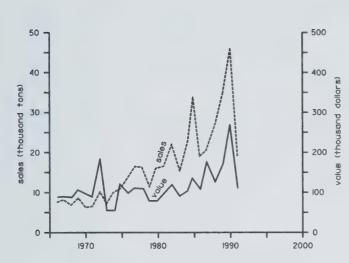


FIGURE 18.—Sales and value of peat in Ohio.



FIGURE 19.—Counties producing salt, gypsum, and peat in Ohio in 1991, and their ranking in sales.



Iron oxide being filtered from brine before entering the grainers at the Excelsior Salt Works, Inc., a former salt-brining operation, on the Ohio River in Scioto County. Photo taken in 1964.

OIL AND GAS

This information is summarized from M. P. McCormac, 1992, 1991 Ohio oil and gas developments: Ohio Department of Natural Resources, Division of Oil and Gas

The Division of Oil and Gas issued 1,378 drilling permits for oil and gas in 1991; the Division estimates that 1,141 wells were actually drilled in 1991. Wells were drilled in 45 of Ohio's 88 counties. The Division of Oil and Gas received 992 well completion reports; 854 wells were productive and 138 were dry holes for a completion rate of 86.0 percent.

The total reported crude oil production in Ohio in 1991 was 9,158,332 barrels, an 8.5 percent decline from 1990. Through 1991, Ohio wells have produced 1,010,688,716 barrels of crude oil. The dollar value of crude oil produced in Ohio in 1991 was \$179,594,619, a decrease of 22.3 percent. Average price per barrel in 1991 was \$19.61, a 15 percent decrease from the 1990 price.

Natural gas production in Ohio in 1991 was 147,651,188 MCF, a 4.6 percent decline from 1990. This production figure includes an estimated 1,461,893 MCF of gas used on the lease. The dollar value of natural gas produced in Ohio in 1991 was \$348,341,267, a decrease of 11.3 percent from 1990. The value of the estimated volume of gas used on the lease was not used in computing this value. The average price per MCF in 1991 was \$2.38, a 6.3 percent decrease from 1990.

The combined total value of Ohio oil and gas production in 1991 was \$527,935,886, a decrease of 15.5 percent from 1990, the lowest market value since 1979.

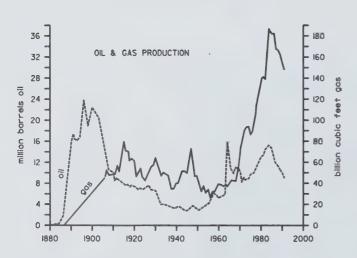


FIGURE 20.-Production of oil and gas in Ohio.



FIGURE 21.—New wells drilled for oil and gas in 1991, by county.

OIL AND GAS 37

TABLE 27.—1991 Ohio summary of new oil and gas well completions by county

G1	Developmen	t wells	Exploratory	wells	Total	Percent	D	rilled footage	е
County ¹	Productive	Dry	Productive	Dry	wells	productive	Productive	Dry	Total
Ashland Ashtabula Athens Belmont Carroll	9 23 4 1 6	2 1 3 0 0	0 1 0 0	2 2 0 0 0	13 27 7 1 6	69.23 88.89 57.14 100.00 100.00	5,998 95,120 5,948 2,544 31,896	6,804 19,237 717 0	12,802 114,357 6,665 2,544 31,896
Columbiana Coshocton Crawford Cuyahoga Delaware	11 22 0 0 0	0 5 0 0	0 4 0 1	1 10 1 0 2	12 41 1 1 2	91.67 63.41 0.00 100.00 0.00	63,115 123,360 0 3,886	8,425 97,620 3,325 0 5,302	71,540 220,980 3,325 3,886 5,302
Erie Fairfield Gallia Geauga Guernsey	0 7 6 53 8	0 1 0 1 0	0 1 0 0 1	2 4 0 0 2	2 13 6 54 11	0.00 61.54 100.00 98.15 81.62	0 20,434 10,929 202,397 31,001	7,245 15,610 0 3,550 8,606	7,245 36,044 10,929 205,947 39,607
Harrison Hocking Holmes Huron Knox	1 9 28 0 20	0 0 13 0 1	0 0 4 0 1	0 0 8 1 5	1 9 53 1 27	100.00 100.00 60.38 0.00 77.78	6,280 27,332 174,755 0 66,558	0 0 130,061 4,466 29,486	6,280 27,332 304,816 4,466 96,044
Lake Lawrence Licking Logan Lorain	1 0 10 0 4	0 1 1 0 0	0 0 1 0	0 1 2 1 2	1 2 14 1 6	100.00 0.00 78.57 0.00 66.67	4,419 0 31,648 0 6,997	1,365 13,001 3,260 9,217	4,419 1,365 44,649 3,260 16,214
Mahoning Marion Medina Mercer Monroe	55 0 20 0 38	0 0 3 0 0	1 0 1 0	0 2 3 3 0	56 2 27 3 38	100.00 0.00 77.78 0.00 100.00	278,651 0 69,628 0 89,428	0 4,404 21,143 4,841 0	278,651 4,404 90,771 4,841 89,428
Morgan Morrow Muskingum Noble Perry	38 18 42 54 27	0 14 1 1 3	1 0 4 0	0 1 6 0 1	39 33 53 55 31	100.00 54.55 86.79 98.18 87.10	131,439 67,299 188,389 204,984 77,582	0 53,928 43,219 1,245 14,071	131,439 121,227 231,608 206,229 91,653
Pickaway Portage Richland Seneca Stark	0 48 0 0 76	0 2 1 1 1	0 0 1 0 1	1 0 1 0 1	1 50 3 1 79	0.00 96.00 33.33 0.00 97.47	0 228,861 4,336 0 370,448	3,229 14,851 8,419 1,389 13,441	3,229 243,712 12,755 1,389 383,889
Summit Trumbull Tuscarawas Washington Wayne	30 62 30 45 19	1 0 0 2 2	0 0 2 1 3	0 0 3 1 8	31 62 35 49 32	96.77 100.00 91.43 93.88 68.75	122,629 295,323 162,927 214,822 90,773	3,787 0 21,823 7,350 58,283	126,416 295,323 184,750 222,172 149,056
TOTAL	825	61	29	77	992	86.09	3,512,136	642,720	4,154,856

¹No well completions were reported for the following counties in 1991: Adams, Allen, Auglaize, Brown, Butler, Champaign, Clark, Clermont, Clinton, Darke, Defiance, Fayette, Franklin, Fulton, Greene, Hamilton, Hancock, Hardin, Henry, Highland, Jackson, Jefferson, Lucas, Madison, Meigs, Miami, Montgomery, Ottawa, Paulding, Pike, Preble, Putnam, Ross, Sandusky, Scioto, Shelby, Union, Van Wert, Vinton, Warren, Williams, Wood, and Wyandot.

TABLE 28.—1991 Ohio summary of new oil and gas well completions by producing zone

Producing zone	No. of producing wells	No. of dry holes	Total no. of wells	Total footage	Percent productive
Pennsylvanian undifferentiated	7	7	14	8,280	50.00
Upper Mississippian undifferentiated	0	1	1	1,604	0.00
Lower Mississippian "1st & 2nd Berea"	61	8	69	82,338	88.41
Devonian Ohio Shale	69	1	70	158,450	98.57
Silurian "Newburg" "Clinton-Medina"	1 638	0 9	1 647	3,130 2,873,798	100.00 98.61
Lower Ordovician Trenton-Gull River	1	1	2	7,255	50.00
Cambrian-Ordovician Rose Run	45	54	99	626,513	45.45
Cambrian Trempealeau Kerbel-Rome	31 1	43 10	74 11	317,434 58,203	41.89 9.09
Precambrian	0	4	4	17,851	0.00
TOTAL	854	138	992	4,154,856	86.09

TABLE 29.—Ohio counties¹ and their state mine number abbreviations²

County	Abbreviation	County	Abbreviation	County	Abbreviation
Adams	Ads	Hamilton	Hmn	Noble	Ne
Allen	An	Hancock	Hk	Ottawa	Oa
Ashland	Ald	Hardin	Hdn	Paulding	Pg
Ashtabula	Asa	Harrison	Hn	Perry	Py
Athens	As	Henry	Hy	Pickaway	Pky
Auglaize	Ae	Highland	Hd	Pike	Pke
Belmont	Bt	Hocking	Hg	Portage	Pe
Brown	Bn	Holmes	Hs	Preble	Pre
Butler	Br	Huron	Hrn	Putnam	Pm
Carroll	Cl	Jackson	Jkn	Richland	Rd
Champaign	Cpn	Jefferson	Jfn	Ross	Rs
Clark	Ck	Knox	Kx	Sandusky	Sy
Clermont	Ct	Lake	Lke	Scioto	So
Clinton	Cln	Lawrence	Le	Seneca	Sa
Columbiana	Ca	Licking	Lg	Shelby	Shy
Coshocton	Cn	Logan	Lgn	Stark	Sk
Crawford	Cd	Lorain	Ln	Summit	St
Cuyahoga	Cya	Lucas	Ls	Trumbull	Tl
Darke	Dke	Madison	Mdn	Tuscarawas	Ts
Defiance	De	Mahoning	Mg	Union	Un
Delaware	Del	Marion	Mn	Van Wert	Vt
Erie	Ee	Medina	Ma	Vinton	Vn
Fairfield	Fd	Meigs	Ms	Warren	Wan
Fayette	Fe	Mercer	Mr	Washington	Wn
Franklin	Fn	Miami	Mi	Wayne	We
Fulton Gallia Geauga Greene Guernsey	Ftn Ga Gea Ge Gy	Monroe Montgomery Morgan Morrow Muskingum	Me My Mon Mw Mum	Williams Wood Wyandot	Ws Wd Wt

¹Brown and Fulton Counties reported no production or sales of mineral commodities in 1991. ²As used for Division of Mines mine numbers.

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	1991 production (tons)	State mine number	Division of Reclamation permit number
Addington, Inc. 9431 U.S. Rte. 60 Ashland, KY 41102-9527 606-928-3433 Larry Addington, pres.	Ohio #1 (491) Ohio #2 (624) Route 50 Job (511) Dundas Job (602) Total mines: 4	Lawrence Lawrence Vinton Vinton Total tons:	808,799 58,237 97,865 306,292 1,271,193	Le-432 Le-454 Vn-188 ¹ Vn-191 ¹	D-0746, IM-1072 D-0927 D-0761 D-0867
Algem Coal Development Co., Inc. 110-B E. Elm St. Granville, OH 43023 614-782-1595 Ralph W. Anderson, pres.	Noble Pit (576)	Coshocton	9,804	Cn-NE ²	D-0618
American Landfill, Inc. 7916 Chapel St. SE Waynesburg, OH 44688 216-856-8800 Darrell Wilson, pres.	American Landfill, Inc. (631)	Stark	46,413	Sk-246	IM-1114
Anthony Mining Co., Inc. P.O. Box 1298 Steubenville, OH 43952 614-765-4185 Joseph J. Sperlazza, pres.	Pipo #51 (189) Maine 307 (190) Total mines: 2	Jefferson Jefferson Total tons:	49,256 91,489 140,745	Jfn-788 Jfn-789	D-0327 D-0307
Avis Coal Co. P.O. Box 3373 Zanesville, OH 43702-3373 614-454-2583 James F. Graham, pres.	Avis Coal Co. (383) Avis Coal Co. (566) Total mines: 2	Athens Athens Total tons:	1,800 66,472 68,272	As-A ² As-AC ²	D-0557 D-0841
B. & D. Coal, Inc. P.O. Box 134 Hamden, OH 45634 614-384-3404 Jerald B. Eberts, pres.	B. & D. Coal #1 (298) B. & D. Coal #1 (563) B. & D. Coal #1 (564) Total mines: 3	Vinton Vinton Vinton Total tons:	1,484 22,591 26,331 50,406	Vn-623 Vn-B ² Vn-BD ²	D-0294 D-0836 D-0207
B & N Coal, Inc. P.O. Box 100 Dexter City, OH 45727 614-783-3575 Gilbert Baker, pres.	Guiler (231) Shevlin (495) Pour House (626) Lee Pit (627) Arnold (628) Shilling (493) Ullman (514) Total mines: 7	Noble Noble, Washington Total tons:	87,606 84,709 302,787 18,827 46,782 131,262 146,657 818,630	Ne-146 Ne-150 Ne-154 Ne-155 Ne-B ² Ne-1008 Ne-151	D-0343 D-0787 D-0900 D-0958 D-0932 D-0706 D-0807
Bannock Coal Co. 43249 Harrah St. P.O. Box 98 Lafferty, OH 43951 614-968-3582 Tony Gentile, pres.	Simon (569)	Belmont	15,570	Bt-1189	D-0914
Belden Brick Co. P.O. Box 910 Canton, OH 44701 216-852-2424 William H. Belden, Jr., pres.	Belden (261) Shanesville (634) Total mines: 2	Tuscarawas Tuscarawas Total tons:	18,740 2,328 21,068	Ts-1646 Ts-1939	IM-44 IM-47
Benedict, Inc. P.O. Box 315 McArthur, OH 45651 614-596-5226 W. E. Engle, pres.	Mitchell Hollow (357) Waldron Pit (419) Allied West (420) Austin Pit (423)	Vinton Vinton Vinton Vinton	3 3 3	Vn-172 Vn-183 Vn-184 Vn-187	D-0445 D-0633 D-0609 D-0672
Blum Coal Co. Scio-Carrollton Rd. P.O. Box 232 Carrollton, OH 44615-0232 216-627-2670 Raymond Blum, owner	DeAngelo-Summitville Job (321) Jackson-Strabula Job (470) Minick Job (471) Blum-DeVille Job (611) Total mines: 4	Columbiana Columbiana Columbiana Columbiana Total tons:	1,880 4,024 3,576 2,594 12,074	Ca-938 Ca-944 Ca-950 Ca-979	IM-937 IM-951 D-0768 D-0886
P.O. Box 148 Bloomingdale, OH 43910 614-733-7311 Abe Bryan, pres.	Boich Mining Co. (178)	Jefferson	335,614	Jfn-528	D-0247, D-0563, D-066 D-0803, D-0873
Buckeye-Industrial Mining Co. P.O. Box 389 Lisbon, OH 44432 216-337-9511 John C. Grisham, pres.	B.C. & Myers (447) Greer (466) R & T (467) Hohn (606)	Carroll Carroll Carroll Carroll	260,236 10,553 9,734 35,595	Cl-238 Cl-242 Cl-243 Cl-247	D-0703 D-0751 D-0805 D-0817

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	1991 production (tons)	State mine number	Division of Reclamation permit number
Buckeye-Industrial Mining Co.	Mountain Spring Coal Co. #13	Columbiana	163,540	Ca-964	D-0874
(con't)	(529) (u) ⁴ West Point Mine #7 (574) (u) ⁴ Mountain Spring Coal Co. #6	Columbiana Columbiana	211,566 380,305	Ca-977 Ca-978	D-0851 D-0874
	(529) (u) ⁴ Rogers (608) Scott (630) Clapper-Cable-Fox (632) Total mines: 10	Columbiana Stark Stark Total tons:	4,270 136,903 127,235 1,339,937	Ca-850 Sk-245 Sk-247	D-0052 D-0653 D-0929
Buckingham Mining & Reclama-	Buckingham Mining & Reclamation, Inc. (497)	Perry	118,222	Py-340	D-0783, D-0916, D-0936
tion, Inc. P.O. Box 31 614-394-2644 Gary L. Allen, pres.	Roger's Hollow (629) Total mines: 2	Perry Total tons:	27,091 145,313	Py-B ⁵	D-0940
C & E Coal, Inc. Rte. 2 Box 177 Toronto, OH 43964 614-537-1498 Amos L. Rawson, pres.	Miller (609)	Columbiana	106,424	Ca-892	D-0896
C L A Coal Co. Route 1 Box 304 Dennison, OH 44621 614-922-3942 Cynthia L. Aubiel, pres.	Dunglen (543)	Jefferson	43,300	Jfn-816	D-0825
Central Ohio Coal Co. P.O. Box 98 Cumberland, OH 43732 614-962-2013 J. E. Katlic, exec. v. pres.	Muskingum Mine (228)	Muskingum, Noble	2,678,511	Ne-41	D-0056, D-0127, D-0261, D-0420, D-0455, D-0559 D-0678, IM-921
Commercial Minerals, Inc. 10900 South Ave. P.O. Box 217 North Lima, OH 44452-0217 216-549-2165 W. T. Mackall, pres.	West Point (98) Lisbon (472) Black Road (612) Total mines: 3	Columbiana Columbiana Columbiana Total tons:	49,664 61,013 13,606 124,283	Ca-919 Ca-951 Ca-981	D-0048, D-0412 D-0741 D-0941
Consolidation Coal Co. Eastern Region Cadiz, OH 43907 614-942-4335 Samuel Shrader, sr. v. pres., mining	Mahoning Valley #36 (150)	Harrison	864,441	Hn-700	D-0018, D-0030, D-0051, D-0054, D-0334, D-0414 D-0452, D-0784, D-0826
Cravat Coal Co. 40580 Cadiz-Piedmont Rd. Cadiz, OH 43907 614-942-4656 Anthony Puskarich, pres.	Kriechbaum Pit (4) 2400 #1 (525) Stewart/Saffell Pit (605) Newcomerstown (615) Hopedale Pit (619) Total mines: 5	Belmont Belmont Belmont Coshocton Harrison Total tons:	535 17,759 6,798 54,006 11,232 90,330	Bt-78 Bt-146 Bt-C ⁵ Cn-C ⁵ Hn-228	IM-733 D-0267 D-0961 D-0911 D-0934
Crooksville Coal Co., Inc.	Crooksville Strip (239)	Perry	50,561	Py-317	D-0057, D-0085, D-0189,
P.O. Box 149 Crooksville, OH 43731 614-982-6651 Ralph L. Allen, pres.	Crooksville Coal Co., Inc. (552) Total mines: 2	Perry Total tons:	50,561	Py-335	D-0461 D-0615, D-0875
D. & D. Mining Co. 3379 E. Garfield Rd. New Springfield, OH 44443 216-549-3127 Donald Thompson, pres.	Saviers Mine (441)	Columbiana	88,272	Ca-348	IM-976
D & L Contractors, Inc. P.O. Box 446 Flushing, OH 43977 614-968-4913 Walter Dombroski, pres.	D & L Strip (185) Piney Fork (586) Total mines: 2	Jefferson Jefferson Total tons:	64,316 7,482 71,798	Jfn-780 Jfn-820	D-0126 D-0894
Daron Coal Co., Inc. Rte. 1 Box 167 Dennison, OH 44621 614-922-6829 Ronald Selway, pres.	Pleasant Valley Mine (433)	Tuscarawas	215,113	Ts-1991	D-0702
Dennis Clay Co. 11123 State Rte. 37 East New Lexington, OH 43764 614-342-5473 Tom L. Dennis, owner	County Rd. 7 Mine (590)	Perry	610	Py-338	IM-1092

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	1991 production (tons)	State mine number	Division of Reclamation permit number
E.M.A.I. Corp. P.O. Box 5250 Poland, OH 44514 216-536-6275 Philippe Milliet, pres.	Bessemer Pit (625)	Mahoning	14,940	Mg-608	IM-4
ENZ, Inc. Rte. 4 Box 4113 New Philadelphia, OH 44663 216-339-4900 James R. Demuth, pres.	Sickafoose Pit (246)	Stark	58,778	Sk-208	D-0295, D-0827
East Fairfield Coal Co. 10900 South Ave. P.O. Box 217 North Lima, OH 44452-0217 216-549-2165 R. E. Mackall, pres.	"M" Mine (475) Gavers Mine (614) "HP" Mine (211) Total mines: 3	Columbiana Columbiana Mahoning Total tons:	21,834 19,307 59,984 101,125	Ca-968 Ca-984 Mg-626	D-0760 D-0952 D-0468
East Ohio Limestone Co. P.O. Box 699 Hartville, OH 44632 216-877-2636 Donald D. Phillips, partner	East Ohio Limestone Co. (255)	Stark	8,599	Sk-663	IM-5
R. A. Eberts Co., Inc. P.O. Box 191 Jackson, OH 45640 614-682-3506 Phil A. Bowman, pres.	McArthur Pit (294) Green Pit (418) Stewart Pit (422) Total mines: 3	Vinton Vinton Vinton Total tons:	150,452 246,566 5,173 402,191	Vn-163 Vn-182 Vn-186	D-0210 D-0631 D-0638
Elk Coal, Inc. P.O. Box 165 McArthur, OH 45651 614-596-2132 John L. Cline, pres.	Oak Hill (584) Bowling Strip (540) Total mines: 2	Jackson Jackson Total tons:	26,866 21,628 48,494	Jkn-1065 Jkn-E ⁷	D-0887 D-0695
Empire Coal Co. P.O. Box 729 Gnadenhutten, OH 44629 614-254-4395 John C. Wilson, pres.	Anco Mining, Inc. (534) Empire Coal Co. (256) Valley Mining, Inc. (596) Total mines: 3	Guernsey Tuscarawas Tuscarawas	68,887 131,602 184,275 384,764	Gy-310 Ts-115 Ts-2015	D-0842 D-0190, D-0217, D-0398 D-0715 D-0866
F. & M. Coal Co. Costonia Rd. Box 171 Toronto, OH 43964 614-544-5203 Edward Fiala, owner	F. & M. Strip (186)	Jefferson	25,654	Jfn-784	D-0728
Fairpoint Coal Co. P.O. Box 158 Fairpoint, OH 43927 614-695-3174 Dennis Zaccagnini, pres.	Pogue Run (19) 7 Mile Drive (594) Total mines: 2	Belmont Tuscarawas Total tons:	12,014 10,114 22,128	Bt-927 Ts-2012	D-0483 D-0869
Harrison Mining Corp. P.O. Box 176 Cadiz, OH 43907 614-942-8220 John A. McNab, pres.	Cadiz Portal (580) (u) ⁸	Harrison	425,517	Hn-710	D-0426
Hillcrest Coal, Ltd. 190 S. Main St. Magnolia, OH 44643 216-866-9388 Kermit & Richard James, Jr., partners	Hillcrest Coal, Ltd. (250)	Stark	286	Sk-221	D-0380
locking Valley Mining 36806 Maysville-Greendale Rd. Logan, OH 43138 614-385-6267 Kevin J. Boyle, pres.	Hocking Valley Mining #1 (483)	Hocking	31,089	Hg-324	D-0754
Holmes Limestone Co. P.O. Box 295 Berlin, OH 44610 216-893-2721 Merle Mullet, pres.	Clark (565) 241 Plant (161) Wayne Mines (162) Charm (164) 557 (538) Bolivar Mine (363)	Coshocton Holmes Holmes, Wayne Holmes Holmes Stark	57,294 12,931 42,556 138,092 53,463 56,096	Cn-832 Hs-67 Hs-79 Hs-86 Hs-97 Sk-235	D-0589, D-0688, D-0856 IM-768 IM-656, D-0429 D-0193, D-0508 D-0775 IM-945, D-0865

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	1991 production (tons)	State mine number	Division of Reclamation permit number
Holmes Limestone Co. (con't)	Bolivar (592) Dennison (597) Stone Creek (601) Total mines: 9	Stark Tuscarawas Tuscarawas Total tons:	10,435 116,637 118,925 606,429	SK-H ⁹ Ts-2017 Ts-2023	D-0650 D-0660 D-0796
Horizon Coal Corp. 11415 Erie Ave. SW P.O. Box 618 Beach City, OH 44608 216-756-2414 Merle Mullet, pres.	Whitacre-Greer (468)	Carroll	89,891	Cl-H ⁹	D-0791
Iuberta Coal Co. P.O. Box 728 Steubenville, OH 43952 614-282-5301 Teresa C. Schiappa, pres.	Rose Valley (326)	Harrison	36,738	Hn-222	D-0587
D Mining, Inc. Rte. 4 Box 4113 New Philadelphia, OH 44663 216-339-4900 John R. Demuth, pres.	Baltzley Valley Mine (505) Craig Pit (562) Total mines: 2	Tuscarawas Tuscarawas Total tons:	197 71,717 71,914	Ts-2000 Ts-JD ⁹	D-0744 D-0858
ames Bros. Coal Co. 190 S. Main St. P.O. Box 425 Magnolia, OH 44643 216-866-9388 Kermit & Richard James, Jr., partners	James Bros. Coal Co. (59) James Bros. Coal Co. (61) Tunnel Hill (636) Total mines: 3	Carroll Carroll Tuscarawas Total tons:	2,533 63,526 16,833 82,892	Cl-17 Cl-162 Ts-2028	D-0282 D-0408 D-0935
amie Mining Co. 69430 Provident Rd. St. Clairsville, OH 43950 614-695-3935 Ralph Della Morta, owner	Jamie Mining Co. (620)	Harrison	2,826	Hn-238	D-0259
oyce Coal Co., Inc. P.O. Box 264 St. Clairsville, OH 43950 614-782-1330 Mario Posock, pres.	Haas (524)	Belmont	71,022	Bt-1184	D-0799
C.C.C.I. P.O. Box 24 Morristown, OH 43759 614-782-1087 George Krulock, pres.	Susie Tipple Mine (519)	Belmont	17,481	Bt-1179	D-0840
Simble Clay & Limestone Co. Rte. 1 Box 386 Dover, OH 44622 216-343-1226 Floyd E. Kimble, owner	Kimble Clay & Limestone Co. (262) Kimble Clay & Limestone Co. (598) Kimble Clay & Limestone Co. (600) Kimble Clay & Limestone Co. (415) Kimble Clay & Limestone Co. (416) Kimble Clay & Limestone Co. (509) Kimble Clay & Limestone Co. (638) Total mines: 7	Tuscarawas	35,578 113,040 36,427 31,974 6,661 19,864 8,704 252,248	Ts-1727 Ts-2019 Ts-2022 Ts-K1 ⁹ Ts-K2 ⁹ Ts-K3 ⁹ Ts-K4 ⁹	IM-9 D-0852 D-0878 D-0203 D-0413 D-0729 D-0921
King Quarries, Inc. P.O. Box 72 Caldwell, OH 43724 614-732-4185 David King, pres.	Nau (551)	Noble	39,218	Ne-152	D-0859
Crulock, Inc. P.O. Box 300 Morristown, OH 43759 614-635-1738 John Vujnovic, Pres.	Warne Strip (617)	Guernsey	63,694	Gy-311	D-0857
& M Mineral Co. 5205 State Rte. 39 Star Rte. Millersburg, OH 44654 216-893-2227 John E. Ling, Jr., pres.	Evans-Cox (264) Luikert (267) Spring (411) Total mines: 3	Tuscarawas Tuscarawas Tuscarawas Total tons:	5,965 24,878 2,898 33,741	Ts-1884 Ts-1914 Ts-1982	IM-6 D-0701 IM-621

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	1991 production (tons)	State mine number	Division of Reclamation permit number
Red Malcuit, Inc. 707 S. Wooster Ave. P.O. Box 166 Strasburg, OH 44680-0166 216-878-7114 Mark A. Malcuit, pres.	RMI #1 (269) RMI #3 (556) RMI #2 (510) RMI #1A (640) Total mines: 4	Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas Total tons:	20,228 21,446 58,631 29,986 130,291	Ts-1918 Ts-2006 Ts-2007 Ts-RM ¹⁰	D-0236 D-0800 D-0737 D-0904
Marietta Coal Co. 67705 Friends Church Rd. St. Clairsville, OH 43950 614-695-2197 George Nicolozakes, pres.	Vannest-Moore et al. (570) Barack-Henthorne et al. (38) Seabright-Bigley-Taylor-Long (39) Consol (42) Denham-Albaugh et al. (452) Porterfield-Harrison Leasing (523) AT & T (604) Total mines: 7	Belmont Belmont Belmont Belmont Belmont Belmont Belmont Total tons:	9,020 154,887 26,500 126,066 61,328 78,289 74,765 530,855	Bt-771 Bt-1104 Bt-1105 Bt-1109 Bt-1164 Bt-1183 Bt-AT ¹⁰	D-0771 D-0088 D-0333 D-0270 D-0742 D-0845 D-0922
Mesa Coal Corp. P.O. Box 98 Big Prairie, OH 44611 216-496-2931 James R. Small, pres.	Conway (622)	Harrison	2,569	Hn-751	D-0956
Miller Mining, Inc. P.O. Box 525 Sugarcreek, OH 44681 216-852-4511 Raymond O. Miller, pres.	Garber Pit (479) Trail Pit (426) Schindler-Fondriest et al. (499) Shrock-Troyer-Miller (506) Mast-Miller et al. (559) Newton (599) Mizer (635) General Clay-Scarr (637) Burky (639) Swihart (642) Total mines: 10	Coshocton Holmes Tuscarawas	1,752 76,978 26,838 58,794 208,448 7,764 23,904 8,428 13,966 11,203 438,075	Cn-826 Hs-94 Ts-197 Ts-2002 Ts-2010 Ts-2020 Ts-2027 Ts-GC ¹⁰ Ts-MMI ¹⁰ Ts-WS ¹⁰	D-0770 D-0699 D-0802 D-0779 D-0849 D-0895 D-0948 D-0967 D-0923 D-0953
Ayers Mining P.O. Box 218 Carrollton, OH 44615 216-739-2009 James L. Myers, owner	Harlem Pit (465) Harlem Mine #2 (607) Total mines: 2	Carroll Carroll Total tons:	12,770 23,667 36,437	Cl-241 Cl-249	D-0782 D-0933
Ohio Coal & Construction Corp. P.O. Box 2388 Wintersville, OH 43952 614-264-7704 Richard Delatore, pres.	No. 38 Strip-Reilly (567) No. 9 Strip-Reilly (567) Total mines: 2	Belmont Belmont Total tons:	11,568 1,210 12,778	Bt-1173 Bt-1186 ¹¹	D-0675 D-0877
Ohio River Collieries, Inc. P.O. Box 128 Bannock, OH 43972 614-968-3504 Tony Gentile, pres.	7400 Pit (27)	Belmont	3,358	Bt-1074	D-0340
Ohio Valley Coal Co. 56854 Pleasant Ridge Rd. Alledonia, OH 43902 216-765-1240 Robert E. Murray, pres.	Powhatan #6 (3) (u) ¹²	Belmont	2,638,001	Bt-68	D-0360
Oxford Mining Co. 2313 Cambridge Rd. P.O. Box 427 Coshocton, OH 43812 614-623-0015 Charles C. Ungurean, pres.	Tri-Mac (575) Shurtz (616) Waters (588) Total mines: 3	Coshocton Coshocton Muskingum Total tons:	118,977 19,394 167,552 305,923	Cn-831 Cn-OX ¹⁰ Mum-901	D-0870 D-0964 D-0898
^o & O Coal Co. P.O. Box 805 Chagrin Falls, OH 44022 216-247-7479 Leonard J. Testa, pres.	Elkrun 101 Mine (613) (u) ¹²	Columbiana	5,812	Ca-983	D-0550
Peabody Coal Co. 1951 Barrett Ct. P.O. Box 1990 Henderson, KY 42420 502-827-6261 G. S. Shiflett, pres.	Simco Mine (112)	Coshocton	89,484	Cn-799	D-0023, D-0668

¹⁰No mine number has been assigned by the Division of Mines.

¹¹This mine was operated 1st and 2nd quarters 1991 by Ohio Coal & Construction Corp., and 3rd and 4th quarters by Schiappa Coal Co., Inc. ¹²(u) indicates underground mine.

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	1991 production (tons)	State mine number	Division of Reclamation permit number
Quality Coal Co. 8751 N. State Rte. 7 Cheshire, OH 45620 614-992-6637 Jay Hall, Jr., pres.	Rte. 50 Pit (511) 3300 Pit (602) Total mines: 2	Vinton Vinton Total tons:	87,904 140,430 228,334	Vn-188 ¹³ Vn-191 ¹³	D-0761 D-0867
Quarto Mining Co. Subsidiary of Consolidation Coal Co. 1029 Market St. Clarington, OH 43915 614-458-2016 Ben Statler, v. pres.	Powhatan #4 (215) (u) ¹⁴	Monroe	2,128,435	Me-4	D-0433
R & F Coal Co. 538 North Main St. Cadiz, OH 43907 614-942-2186 John Hill, pres.	Meigs-Phillips (456) Miller (460) American Legion (522) NCR 10 (572) Dudek-Bannock (568) Bartolec North (123) Wentz-Green (122) Downing 36 (477) Hathaway-Isleta (442) Wolf-Isleta (577) Watson-Huhn (314) Reppart (327) Tasa (399) Duncanwood (443) Mihelios-Pruneski (153) Harrah West (581) Varkony-Polen (183) Arrowhead (544) Polen II (545) Long-LaFever (550) DeLong-Wilsterman (508) Total mines: 21	Belmont Belmont Belmont Belmont Belmont Belmont Coshocton Coshocton Coshocton Coshocton Coshocton Harrison Harrison Harrison Harrison Harrison Harrison Jefferson Jefferson Jefferson Jefferson Voble Tuscarawas Total tons:	11,239 2,098 45,777 537,935 98,623 52,709 12,942 31,525 29,704 803,697 83,802 28,330 13,474 13,654 16,912 86,937 10,699 176,835 196,015 117,064 9,366 2,479,337	Bt-1168 Bt-1175 Bt-1182 Bt-1185 Bt-1185 Bt-1188 Cn-779 Cn-814 Cn-824 Cn-HI ¹⁵ Cgy-304 Hn-223 Hn-225 Hn-225 Hn-739 Hn-748 Jfn-720 Jfn-817 Jfn-P2 ¹⁵ Ne-147 Ts-DW ¹⁵	D-0619 D-0338 D-0854 D-0862 D-0908 D-0320 D-0489 D-0679 D-0673 D-0689 D-0262 D-0552 D-0552 D-0593 D-0681 D-0119 D-0797 D-0158 D-0860 D-0798 D-0453 D-0453 D-0792
& R Minerals, Inc. 7360 Skyview Rd. Millersburg, OH 44654 216-674-4926 Gary R. Ross, pres.	Adams (578)	Coshocton	29,430	Cn-RR ¹⁵	D-0872
R. T. G., Inc. P.O. Box 250 Byesville, OH 43723 614-439-4399 James E. Rossiter, pres.	R. T. G. #7 (618)	Guernsey	79,878	Gy-313	D-0907
Regal Mining, Inc. 3333 Perron Rd. SE Carrollton, OH 44615 216-739-6596 Charles L. Smith, pres.	Camp Ecco (360) Selway (526) Copeland (573) Total mines: 3	Carroll Carroll Carroll Total tons:	1,094 79,367 16,333 <i>96,794</i>	Cl-233 Cl-244 Cl-248	D-0628 D-0814 D-0902
Saginaw Mining Co. 1100 Superior Ave. Cleveland, OH 44114-2598 216-861-3300 R. D. Thompson, pres.	Saginaw Mine (16) (u) ¹⁴	Belmont	382,735	Bt-643	D-0328
Sands Hill Coal Co., Inc. 1203 N. Pennsylvania Ave. Wellston, OH 45692 614-384-5659 Jack Huffman, pres.	Sands Hill Strip #5 (623) Sands Hill Strip #4 (541) Sands Hill Strip #3 (513) Total mines: 3	Jackson Jackson, Vinton Vinton Total tons:	98,875 233,676 199,718 532,269	Jkn-1069 Jkn-SH ¹⁵ Vn-S ¹⁵	D-0944 D-0861, IM-1068 D-0793
Sands Mining Corp. 3445 Adamsville Rd. P.O. Box 2848 Zanesville, OH 43701 614-454-6863 Gene Sands, pres.	Montgomery Pit (587)	Muskingum	245,970	Mum-900	D-0882
Schiappa Coal Co., Inc. P.O. Box 728 Steubenville, OH 43952 614-282-5301 Teresa C. Schiappa, pres.	Reilly Strip (567)	Belmont	5,502	Bt-1186 ¹⁶	D-0877

 ¹⁹This mine was operated 1st and 2nd quarters 1991 by Quality Coal Co., and 3rd and 4th quarters by Addington, Inc.
 14(u) indicates underground mine.
 15No mine number has been assigned by the Division of Mines.
 16This mine was operated 1st and 2nd quarters 1991 by Ohio Coal & Construction Corp., and 3rd and 4th quarters by Schiappa Coal Co., Inc.

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	1991 production (tons)	State mine number	Division of Reclamation permit number
Southern Ohio Coal Co. P.O. Box 490 Athens, OH 45701 614-286-5051 J. E. Katlic, exec. v. pres.	Meigs Mine #31 (212, 300) (u) ¹⁷ Meigs Mine #2 (213) (u) ¹⁷ Total mines: 2	Meigs, Vinton Meigs Total tons:	2,433,844 3,454,751 5,888,595	Ms-293 Ms-294	D-0354, D-0463 D-0355
Stewart Coal Co. Lake Alma Rd. Wellston, OH 45692 614-286-4696 William F. Stewart, pres.	Stewart Mine (539)	Jackson	61,479	Jkn-1064	D-0732, D-0891, D-0844, D0884
Sugarcreek Clay & Limestone, Inc. P.O. Box 402 Sugarcreek, OH 44681 216-852-4440 Daniel O. Miller, pres.	Coshocton Strip (478) Hershberger Strip (487) Total mines: 2	Coshocton Holmes Total tons:	5,528 32,317 37,845	Cn-825 Hs-825	D-0758 D-0529
Sunnydale Mining Co. 88740 Fairview Rd. Jewett, OH 43986 614-946-4291 Robert Stewart, owner	Sunnydale Mining Co. (621)	Harrison	9,278	Hn-240	D-0917
Thompson Bros. Mining Co. 3379 E. Garfield Rd. New Springfield, OH 44443 216-549-3979 J. E. Thompson, pres.	Peres Mine (205)	Mahoning	25,337	Mg-65	D-0374
Thompson Mining Co. 12321 Ideal Rd. Byesville, OH 43723 614-685-6726 George Thompson, owner	Harkness Pit (547)	Muskingum	18	Gy-308	D-0724
Valley Coal Corp. P.O. Box 148 Union Furnace, OH 43158 304-773-5531 Velma G. Zuspan, pres.	Boyle Pit (330)	Hocking	21,836	Hg-321	D-0531
Valley Mining, Inc. Rte. 1 Box 158B Dennison, OH 44621 614-922-3942 Mary J. Brown, pres.	Smith (582) York (489) Statewide RDF (633) Page (504) Heddleston (555) Lattavo (560) Gibson (595) Hershberger (641)	Harrison Jefferson Stark Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas	94,215 110,190 30,595 2,219 45,667 145,825 26,299 30,099 485,109	Hn-750 Jfn-813 SK-WM ¹⁹ Ts-1999 Ts-2005 Ts-2011 Ts-2014 Ts-V ¹⁹	D-0901 D-0740 IM-1122 D-0738 D-0769 D-0822 D-0868 D-0912
Varkony Mining Co. P.O. Box 427 Hopedale, OH 43976 614-937-2777 Stephen & John Varkony, Jr.,owners	Varkony Mining Co. (146)	Harrison	41,535	Hn-217	D-0440
W.B. Coal Co., Inc. R.D. 1 Box 40 Bloomingdale, OH 43910 614-282-6503 Wayne Boich, pres.	McGinness Bros. Strip (144)	Harrison	123,701	Hn-738	D-0376
Waterloo Coal Co., Inc. P.O. Box 626 Jackson, OH 45640 614-682-7787 Phil A. Bowman, v. pres.	Bowman Strip (165)	Jackson	547,674	Jkn-367	IM-774, D-0205, D-0273 D-0286, D-0594, D-092
Weirton Construction Co. 401 Pennsylvania Ave. Weirton, WV 26062 304-748-1400 Donald R. Donell, pres.	#19 (180)	Jefferson	172,158	Jfn-687	D-0404

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	1991 production (tons)	State mine number	Division of Reclamation permit number
Frank Widmor Coal Co. P.O. Box 176 Blaine, OH 43909 614-635-4811 Frank Widmor, owner	Frank Widmor Coal Co. (603)	Belmont	7,497	Bt-1190	IM-1089
Zimnox Coal Co. 1211 Third St. Brilliant, OH 43913 614-598-4111 Dennis Zimnox, v. pres.	Zimnox #4 (181)	Jefferson	30,648	Jfn-703	D-0194, D-0736, D-0843
Zoar Mining Co. P.O. Box 550 Zoar, OH 44697 216-874-2434 David W. Johnson, pres.	Zoar Mining Co. (258)	Tuscarawas	2,383	Ts-540	IM-28

1991 OHIO DIRECTORY OF COAL-PREPARATION PLANTS AND ASSOCIATED FACILITIES, BY COUNTY

County	Name, address, telephone number, and president/owner/manager of company	Name of plant (and map location number for coal-preparation plants)	Township	State mine number	Division of Reclamation permit number	Type of facility
Belmont	Bannock Coal Co. 43249 Harrah St. P.O. Box 98 Lafferty, OH 43951 614-968-3582 Tony Gentile, pres.	Bannock Coal Tipple & Shops	Wheeling	Bt-1127	D-0774	tipple, shops
	Consolidation Coal Co. Eastern Region Cadiz, OH 43907 614-942-4335 Samuel Shrader, sr. v. pres., mining	General Services 105	Wheeling	Hn-5		general services
	Cravat Coal Co. 40580 Cadiz-Piedmont Rd. Cadiz, OH 43907	Bellaire River Dock Lynn Tipple (26)	Pultney Washington, York	Bt-876 Bt-878	D-0687 D-0230	loading dock tipple, prep plant—jig, flotation
	614-942-4656 Anthony Puskarich, pres.	Holloway Tipple	Flushing	Bt-963	D-0763	tipple
	Marietta Coal Co. 67705 Friends Church Rd. St. Clairsville, OH 43950 614-695-2197 George Nicolozakes, pres.	Marietta Coal Co. (3)	Pultney	Bt-936	D-0216	loading dock, prep plant—jig, flota tion, centrifugal dryer, crushers, screens
	Ohio River Collieries, Inc. P.O. Box 128 Bannock, OH 43972 614-968-3504 Tony Gentile, pres.	Amber Tipple Lafferty Tipple Lafferty Truck Shop	Union Union Union	Bt-844 Bt-947 Bt-1093	D-0773 D-0773 D-0773	tipple tipple shop
	Ohio Valley Coal Co. 56854 Pleasant Ridge Rd. Alledonia, OH 43902 216-765-1240 Robert E. Murray, pres.	Powhatan #6 (4)	Smith, Washington	Bt-68	D-0360	prep plant—jigs, cyclones, centri- fuges, thickeners, filters, screens
	Quarto Mining Co. (subsidiary of Consolidation Coal Co.) 1029 Market St. P.O. Box 231 Clarington, OH 43915 614-458-1381 Ben Statler, v. pres.	Central Shop	York	Bt-1000		central shop
	R & F Coal Co. 538 North Main St. Cadiz, OH 43907 614-942-9250 John Hill, pres.	Lamira Preparation Plant (1) Bellaire River Dock	Smith City of Bellaire	Bt-108 Bt-832		prep plant—heavy-media washers cyclone, centrifuges, thickeners, filters, crushers, breakers, screen dock
	Rayle River Coal 67705 Friends Church Rd. St. Clairsville, OH 43950 614-695-2197 George Nicolozakes, pres.	Rayle River Terminal	Pultney	Bt-1191		coal transfer facility
	Saginaw Mining Co. 1100 Superior Ave. P.O. Box 6508 Cleveland, OH 44114-2598 216-861-3300 R. D. Thompson, pres.	Saginaw Mine (2)	Richland	Bt-643	D-0328	prep plant—heavy-media washers crushers, screens, picking tables, magnets
Carroll	Conotton Valley Quarries, Inc. P.O. Box 187 Sherrodsville, OH 44675 614-269-3481 Nick J. Puskarich, pres.	Sherrodsville Tipple	Orange	Cl-C ¹	D-0707	tipple
Columbiana	Buckeye-Industrial Mining Co. P.O. Box 389 Lisbon, OH 44432 216-337-9511 John C. Grisham, pres.	Kensington Preparation Plant (5) Gavers Wash Plant (29)	West	Ca-879 Ca-932	D-0806 D-0532	prep plant—heavy-media washer, cyclone, centrifuges, breaker prep plant—Jeffrey jig system

1991 OHIO DIRECTORY OF COAL-PREPARATION PLANTS AND ASSOCIATED FACILITIES, BY COUNTY—Continued

County	Name, address, telephone number, and president/owner/manager of company	Name of plant (and map location number for coal-preparation plants)	Township	State mine number	Division of Reclamation permit number	Type of facility
Columbiana (con't)	C & E Coal, Inc. Route 2 Box 177 Toronto, OH 43964 614-537-1498 Amos L. Rawson, pres.	C & E Coal, Inc. (6)	Madison	Ca-892	D-0599	prep plant—crushers, screens
	Johnson Mining Co. 39150 Churchill Rd. Lisbon, OH 44432 216-424-3742 Robert A. Johnson, owner	Johnson Tipple	Elk Run, Madison	Ca-922	D-0666	tipple
Coshocton	Conesville Coal Preparation Co. 14561 Twp. Rd. 263 Conesville, OH 43811 614-687-3209 J. E. Katlic, exec. v. pres.	Conesville Coal Preparation Co. (7)	Franklin	Cn-810		prep plant—jig, cyclones, froth cells flotation, filter press, screens, dryers
	Oxford Mining Co. 2313 Cambridge Rd. P.O. Box 427 Coshocton, OH 43812 614-623-0015 Charles C. Ungurean, pres.	Coshocton Tipple	Franklin	Cn-736	D-0671	tipple
	R & F Coal Co. 538 North Main St. Cadiz, OH 43907 614-942-9250 John Hill, pres.	Barb Tipple	Franklin	Cn-748	D-0661	tipple
Gallia	Conrich of Ohio, Inc. State Rte. 7. Addison, OH 45610 614-446-7040 Lee Congleton, pres.	Conrich of Ohio, Inc.	Addison	Ga-216	D-0739	loading dock
	LaMay Industries, Inc. P.O. Box 626 Jackson, OH 45640 614-682-7787 Phil A. Bowman, v. pres.	Waterloo River Dock	Addison	Ga-229	D-0725	dock, tipple
	Mack Energy Co. P.O. Box 148 Union Furnace, OH 43158-0148 614-385-8521 Michael B. McCort, pres.	Mack River Tipple	Clay	Ga-236		dock, tipple
	Sands Hill Coal Co., Inc. 1203 N. Pennsylvania Ave. Wellston, OH 45692 614-384-5659 Jack Huffman, pres.	Sands Hill Coal Co., Inc.	Addison	Ga-183	D-0834	tipple
Harrison	Consolidation Coal Co. Eastern Region Cadiz, OH 43907 614-942-4335 Samuel Shrader, sr. v. pres., mining	Georgetown Preparation Plant (8)	Cadiz	Hn-212	D-0192	prep plant—jigs, flotation, cyclones, centrifuges, filters, crushers, breaker, screens, dryer, picking tables, magnets
	Cravat Coal Co. 40580 Cadiz-Piedmont Rd. Cadiz, OH 43907 614-942-4656 Anthony Puskarich, pres.	22 Shop	Moorefield	Hn-230		shop
	Harrison Processing Corp. 86395 Mine Rd. P.O. Box 250 Hopedale, OH 43976 614-942-8220 John A. McNab, pres.	Nelms Prep Plant (30)	Green	Hn-169	D-0424	prep plant—heavy-media vessel, heavy-media cyclones, spirals, dryers, thickeners, crushers, screens
	R & F Coal Co. 538 North Main St. Cadiz, OH 43907 614-942-9250 John Hill, pres.	Machine Shop/Warehouse Cadiz Lab	Cadiz Cadiz	Hn-709 Hn-709C		shop laboratory

1991 OHIO DIRECTORY OF COAL-PREPARATION PLANT AND ASSOCIATED FACILITIES, BY COUNTY—Continued

County	Name, address, telephone number, and president/owner/manager of company	Name of plant (and map location number for coal-preparation plants)	Township	State mine number	Division of Reclamation permit number	Type of facility
Hocking	Mack Energy Co. P.O. Box 148 Union Furnace, OH 43158-0148 614-385-8521 Michael B. McCort, pres.	Mack Energy Tipple	Starr	Hg-M ²	D-0556	tipple
Jackson	Sands Hill Coal Co., Inc. 1203 N. Pennsylvania Ave. Wellston, OH 45692 614-384-5659 Jack Huffman, pres.	Sands Hill Prep Plant (9)	Milton	Jkn-1055	D-0347	prep plant—heavy-media cyclone, hydrocyclones, screens, dryer, crusher, picking table, magnets
	Stewart Coal Co. Lake Alma Rd. Wellston, OH 45692 614-286-4696 William F. Stewart, pres.	Stewart Tipple	Milton	Jkn-S ²	D-0659	tipple
	Waterloo Coal Co., Inc. P.O. Box 626 Jackson, OH 45640 614-682-7787 Phil A. Bowman, v. pres.	Bowman Strip (10)	Jefferson, Madison	Jkn-367	D-0285	prep plant—jig, crushers, breaker, screens, dryers, wash tables
Jefferson	Ohio Coal & Construction Corp. P.O. Box 2388 Wintersville, OH 43952 614-264-7704 Richard Delatore, pres.	#40 Dock-Shop-Prep Plant (12)	Warren	Jfn-647	D-0492	dock, shop, prep plant—heavy- media washer, cyclones, crushers, breaker, screens, dryers
	W.B. Coal Co., Inc. R.D. 1 Box 40 Bloomingdale, OH 43910 614-282-6503 Wayne Boich, owner	W.B. Tipple	Wayne, Cross Creek	Jfn-744	D-0665	tipple
Lawrence	Collins Mining Co. Rte. 2 Box 48 Ironton, OH 45638 614-532-9400 O. C. Collins, owner	River Dock	Hamilton	Le-415	D-0777	dock
	Harbour Marine, Inc. P.O. Box 3126 Huntington, WV 25702-0126 703-935-7521 James Williamson, v. pres.	Harbour Marine, Inc.	Union	Le-420	D-0662	tipple
	Ironton Coal Co., Inc. 9431 U.S. Rte. 60 Ashland, KY 41102-9527 606-928-3433 Larry Addington, pres.	Ironton Coal Co., Inc.	Upper	Le-439		loading dock
	Rail-River Terminal Co., Inc. c/o Marcoal USA P.O. Box 562 Dale, IN 47523 812-937-4536 James D. Kulbeth, pres.	Rail-River Terminal Co., Inc.	Perry	Le-413	D-0664	dock
Mahoning	East Fairfield Coal Co. 10900 South Ave. P.O. Box 217 North Lima, OH 44452-0217 216-549-2165 R. E. Mackall, pres.	Tipple Washing Plant (13)	Beaver Beaver	Mg-621 Mg-623	D-0214	tipple prep plant—cyclones, centrifuges, thickener, filter, crushers, screen magnets
	Ted Mesmer & Sons, Inc. 10950 Woodworth Rd. North Lima, OH 44452 216-549-2385 Robert Mesmer, v. pres.	Mesmer Tipple	Beaver	Mg-59	D-0686	tipple
	Thompson Bros. Mining Co. 3379 E. Garfield Rd. New Springfield, OH 44443 216-549-3979 J. E. Thompson, owner	Thompson Bros. Mining Co.	Springfield	Mg-588	D-0711	tipple

1991 OHIO DIRECTORY OF COAL-PREPARATION PLANTS AND ASSOCIATED FACILITIES, BY COUNTY—Continued

County	Name, address, telephone number, and president/owner/manager of company	Name of plant (and map location number for coal-preparation plants)	Township	State mine number	Division of Reclamation permit number	Type of facility
Meigs	Addington, Inc. 9431 U.S. Rte. 60 Ashland, KY 41102-9527 606-928-3433 Larry Addington, pres.	Addington Dock #4	Salisbury	Ms-285	D-0698	tipple, dock
	Raven Hocking Coal Corp. P.O. Box 108 Mason, WV 25260 304-773-5531 Velma G. Zuspan, pres.	Raven Dock	Sutton	Ms-307		dock
	Southern Ohio Coal Co. P.O. Box 490 Athens, OH 45701 614-286-5051 J. E. Katlic, exec. v. pres.	Meigs Mine No. 31 (14)	Salem	Ms-293	D-0354	prep plant—heavy-media washers, flotation, cyclones, centrifuges, thickeners, filters, breaker, screen
Monroe	Quarto Mining Co. (subsidiary of Consolidation Coal Co.) 1029 Market St. P.O. Box 231 Clarington, OH 43915 614-458-2016 Ben Statler, v. pres.	Powhatan #4 (15)	Salem	Me-4	D-0422	prep plant—jigs, cyclones, centri- fuges, thickeners, filters, crushers
Morgan	Central Ohio Coal Co. P.O. Box 98 Cumberland, OH 43732 614-962-2013 J. E. Katlic, exec. v. pres.	Muskingum Mine (16)	Meigsville	Ne-41	D-0420	prep plant—jigs, flotation, cy- clones, thickener, filters, crushers, breakers, screens, magnets
Muskingum	King Quarries, Inc. P.O. Box 72 Caldwell, OH 43724 614-732-4185 David King, pres.	King Quarries Tipple	Washington	Mum-229	D-0363	tipple
	Sands Mining Corp. 3445 Adamsville Rd. P.O. Box 2848 Zanesville, OH 43701 614-454-1483 Gene Sands, pres.	Sands Coal Washing (28)	Washington	Mum-239	D-0428	prep plant—jig, cyclones, crusher, flotation, conveyor
Perry	Crooksville Coal Co., Inc. P.O. Box 149	Crooksville Preparation Plant (18)	Bearfield	Py-317	D-0248	prep plant—jig, flotation, centrif- ugal dryer, crushers, screens
	Crooksville, OH 43731 614-982-6651 Ralph L. Allen, pres.	Crooksville Tipple	Salt Creek	Py-339	D-0692	tipple
	Nutter Bros. Coal Co., Inc. P.O. Box 248 New Straitsville, OH 43766 614-394-2681 James P. Nutter, pres.	#1 Tipple	Monday Creek	Hg-293	D-0288	tipple
	Peabody Coal Co. 2644 Pike Twp. Rd. 217 NE New Lexington, OH 43764 502-827-0800 G. S. Shiflett, pres.	Sunnyhill Preparation Plant #0297 (17)	Pike	Py-248	D-0325	prep plant—jigs, cyclones, crushers breaker, screens, centrifuges
Scioto	Norfolk Southern Railroad Rte. 3 Box 106 Wheelersburg, OH 45694 614-574-8491 Charles G. Howard, asst. to mgr.	NS Wheelersburg Terminal	Porter	So-96		dock
	Standard Materials, Inc. P.O. Box 184 Wheelersburg, OH 45694 216-743-3151 C. W. Kelley, asst. sec.	Wheelersburg Dock	Porter	So-92	D-0607	dock

1991 OHIO DIRECTORY OF COAL-PREPARATION PLANTS AND ASSOCIATED FACILITIES, BY COUNTY—Continued

County	Name, address, telephone number, and president/owner/manager of company	Name of plant (and map location number for coal-preparation plants)	Township	State mine number	Division of Reclamation permit number	Type of facility
Stark	Wilmot Mining Co. P.O. Box 185 Wilmot, OH 44689 216-359-5411 Thomas R. Eddy, pres.	Wilmot Mining Tipple	Bethlehem	Sk-W ³	D-0595	tipple
Tuscarawas	Central Fuel Co. County Rd. 55 P.O. Box 165 New Philadelphia, OH 44663 216-339-5049 Keith B. Kimble, gen. mgr.	Central Fuel Co. (20)	York	Ts-1938	D-0381	prep plant—jig, screen, dryers
	Empire Coal Co. P.O. Box 729 Gnadenhutten, OH 44629 614-254-4395 John C. Wilson, pres.	Empire Coal Co. (19)	Clay, Salem	Ts-115	D-0199	prep plant—jig, flotation, cyclones, filters, crushers, screens
	Horizon Coal Corp. 11415 Erie Ave. SW P.O. Box 618 Beach City, OH 44608 216-756-2414 Merle Mullet, pres.	Horizon Coal Wash Plant (21)	Franklin, Lawrence	Ts-1942	D-0287	prep plant—jigs, cyclones, centri- fuges, crushers, screens, picking tables
	Miller Mining, Inc. P.O. Box 525 Sugarcreek, OH 44681 216-852-4511 Olen Miller, pres.	Copperhead Tipple	Sugar Creek, Wayne	Ts-MM ³	D-0652	tipple
Vinton	Benedict, Inc. P.O. Box 315 McArthur, OH 45651 614-596-5226 W. E. Engle, pres.	Benedict, Inc. (22)	Swan	Vn-145	D-0159	prep plant—heavy-media washer, cyclone, crusher, conveyors
	R. A. Eberts Co., Inc. P.O. Box 191 Jackson, OH 45640 614-682-3506 Phil A. Bowman, pres.	Eberts Tipple	Elk	Vn-E ³	D-0472	tipple
	Addington, Inc. 9431 U.S. Rte. 60 Ashland, KY 41102-9527 606-928-3433 Larry Addington, pres.	Addington, Inc. (23)	Clinton	Vn-178	D-0185	prep plant—washers, cyclones, jig, centrifugal dryer, thickener, Diester table, screens, filter, crusher, magnet
	Sands Hill Coal Co., Inc. 1203 N. Pennsylvania Ave. Wellston, OH 45692 614-384-5659 Jack Huffman, pres.	Sands Hill Strip (24)	Clinton	Vn-641	D-0169	prep plant—heavy-media washers flotation, cyclones, centrifuge, crushers, screens, dryer, picking tables, magnets
Wayne	Holmes Limestone Co. P.O. Box 295 Berlin, OH 44610 216-893-2721 Merle Mullet, pres.	Holmes Limestone Preparation Plant (27)	Franklin	Hs-79	D-0283	prep plant—jig, crushers, dryers, screens, conveyors

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1991 OHIO DIRECTORY OF PRODUCING COAL-MINE OPERATORS, BY COUNTY

NOTE: This directory lists only the coal-producing operations. It does not list tipples, loading docks, preparation plants, or other active, nonproducing operations that would contribute to employment and wage statistics presented on p. 16-19.

SEAM IDENTIFICATION

Waynesburg	12 Washington	Anderson	Harlem	Winters
11	12	A	H	M
	7A Mahoning	Pittsburgh	Pomeroy-Redstone	Meigs Creek
7	7A	00	8 A	6:
Clarion	Lower Kittanning	Strasburg	6 Middle Kittanning	Lower Freeport
4A	50	P4	9	64
Sharon	Lower Mercer	Upper Mercer	Fionesta	Brookville
	ಣ	3A	3B	4

	State mine number		As-A ²	As-AC2		Bt-1189 Bt-146 Bt-78 Bt-C ²	Bt-927 Bt-1184 Bt-1179 Bt-11053	Bt-AT2	Bt-771	Bt-1104	Bt-1183
int	Non- produc- tion			П		C1 4 1-1	4 88				
Employment	Production nder- Sur-		-	14		1 1 6	25 4 42				
田田	Produ Under-										
Disposition	Tonnage		1,800	66,472		15,570 17,759 535 6,798	12,014 71,022 17,481 26,500	74,765	9,020	154,887	78,289
Dispo	Method		truck	truck		truck water water truck	truck truck truck truck	truck	truck	truck	truck
	Days in production in 1991		7	276		145 54 14 6	11 109 117 41	92	15	148	113
	Tonnage produced in 1991		1,800	66,472		15,570 17,759 535 6,334 464 6,798	12,014 71,022 17,481 18,500 8,000 26,500	50,717 24,048 74,765	6,877 2,143 9,020	129,492 25,395 154,887	61,229 17,060 78,289
	Method of production		strip	strip		strip strip strip strip auger Total	strip strip strip strip auger Total	strip auger Total	strip auger Total	strip auger Total	strip auger Total
	Type of mine		surface	surface		surface surface surface surface surface	surface surface surface surface surface	surface	surface	surface	surface
	Thick- ness inches)		09	24 24 24		09	60 52 28			36	
	Seam		9	6A 7		8 8 8 8	8 8 11 12	∞	11	11	11
	Township	00	York	York	7 tons	Colerain Flushing York York	Richland Richland Wheeling Colerain	Kirkwood, Union	Richland	Richland	Richland
	Name of mine	ATHENS COUNTY - Total production = 68,272 tons	Avis Coal Co.	Avis Coal Co.	BELMONT COUNTY — Total production = 4,517,577 tons	Simon 2400 #1 Kriechbaum Pit Stewart/Saffell Pit	Pogue Run Haas Susic Tipple Mine Seabright-Bigley-Taylor-Long	AT&T	Vannest-Moore et al.	Barack-Henthorne et al.	Porterfield-Harrison Leasing
	Name of company	ATHENS COUNTY	Avis Coal Co.		BELMONT COUNT	Bannock Coal Co. Cravat Coal Co.	Fairpoint Coal Co. Joyce Coal Co., Inc. K.C.C.I. Marietta Coal Co.				

Bt-1164	Bt-1109	Bt-1173 Bt-11864 Bt-1074 Bt-68	Bt-1168	Bt-1182	Bt-1175	Bt-1185	Bt-1188	Bt-643 Bt-11864 Bt-1190	CI-243 CI-238	Cl-242	Cl-247 Cl-H ²	Cl-175 Cl-162 Cl-241	Cl-249	Cl-2446
		2 1 3 178		1		12	67	116 1		1	==	4	1	11
	- 10 100		9	ಬ	1	. 57	10	20 20	1 16	67	ου ι ο	14	က	19
		224						47						
61,328	126,066	11,568 1,210 3,358 2,142,259 541,187 2,683,446	111,239	9,627 36,727 46,354	787 1,265 2,052	197,305 343,352 540,717	49,324 49,954 99,278	378,648 5,502 7,497	9,734	10,553	35,595 89,891	2,533 65,252 12,770	23,667	79,367
truck	truck	truck truck truck rail truck Total	truck	water truck Total	water truck Total	water truck Total	water truck Total	rail truck truck	truck	truck	truck	truck truck truck	truck	truck
78	162	91 8 12 298	120	134	31	265	215	221 105 31	230	20	50 198	113	233	244
48,972 12,356 61,328	56,505 69,561 126,066	11,568 1,210 3,358 1,982,829 655,172 2,638,001	$\frac{103,292}{7,947}$ $\overline{111,239}$	45,777	2,098	525,512 12,423 537,935	94,603 4,020 98,623	382,735 5,502 7,497	9,734 213,879 46,357 260,236	7,531 3,022 10,553	35,595 89,891	2,533 63,526 929 11,841 12,770	22,407 1,260 23,667	79,367
strip auger Total	strip auger Total	strip strip strip longwall cont. miner Total	strip auger Total	strip	strip	strip auger Total	strip auger Total	cont. miner strip strip	strip strip auger Total	strip auger Total	strip strip	strip strip strip auger Total	strip auger Total	strip
surface	surface	surface surface surface slope	surface	surface	surface	surface	surface	slope surface surface	surface	surface	surface	surface surface surface	surface	surface
44	51	40 36 42 62	35	36	42	36		60 40 72	24	36	30	22.22.23.23.24	24	16
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Smith	Union	Pease Warren Union Smith, Washington	Goshen, Wayne	Kirkwood	Union	Union, Wheeling	Wheeling	Richland Warren Pultney	Fox Rose	Rose	Rose Rose	Rose Rose Lee	Lee	Lee
Denham-Albaugh et al.	Consol	No. 38 Strip-Riddle No. 9 Strip-Reilly 7400 Pit Powhatan #6	Meigs-Phillips	American Legion	Miller	NCR 10	Dudek-Bannock	Saginaw Mine Reilly Strip Frank Widmor Coal Co. Pul Pul Pul Pul Pul Pul Pul Pul		Greer	Hohn Whitacre-Greer	James Bros. Coal Co. James Bros. Coal Co. Harlem Pit	Harlem Mine #2	Selway
		Ohio Coal & Construction Corp. Ohio River Collieries, Inc. Ohio Valley Coal Co.	R & F Coal Co.					Saginaw Mining Co. Schiappa Coal Co., Inc. Frank Widmor Coal Co.	Buckeye-Industrial Mining Co.		Horizon Coal Corp.	James Bros. Coal Co. Myers Mining		Regal Mining, Inc.

¹Averages fewer than one employee per month.

²No mine number has been assigned by the Division of Mines.

²No mine number has been assigned by the Division of Mines.

²Employment reported for B-1.105 is a summary of employment for all Marietta Coal Co. operations.

²Employment reported and and quarters 1991 by Ohio Coal & Construction Corp., and 3rd and 4th quarters by Schiappa Coal Co., Inc. ⁵Employment reported for Cl-17 includes employment for Cl-162.

⁶Employment reported for Cl-244 is a summary of employment for all Regal Mining, Inc., operations.

1991 OHIO DIRECTORY OF PRODUCING COAL-MINE OPERATORS, BY COUNTY—Continued

te Je	lber	,	n oo	,	4	608486	92	51	81 19	48	688	80		332 326 331	Cn-OX8 Cn-799	324	622
State	number		CI-233 CI-248	7	Ca-944	Ca-979 Ca-950 Ca-938 Ca-964 Ca-978 Ca-978	Ca-977	Ca-951	Ca-981	Ca-348	Ca-984 Ca-968 Ca-983	ع ا	CIP-INE	Cn-Cs Cn-832 Cn-826 Cn-831	Cn-OX	Cn-824	Cn-779
Non-	produc- tion					m m 9	67		1 7	=	211		n		49	62	
Employment duction	Sur- face			,	-		00	6	14 13	∞	14 2		٥	123 33 7	5 9	11	- C
Production	Under- ground					27	21				23						
ation	Tonnage [1,094		4,024	2,594 3,576 1,880 163,540 380,305 4,270	211,566	61,013	13,606	88,272	17,521 19,265 405		9,804	54,067 57,294 1,752 118,977	19,394 105,864	10,866 17,459 28,325	27,307 17,482 44,789
<u> </u>	Method		truck truck		truck	truck truck truck truck truck	truck truck	truck	truck	truck	truck truck truck		truck	truck truck truck truck	truck	water truck Total	water truck Total
Days in	in 1991		26 86		42	35 29 61 137 242	220	115	31 96	286	37 41 53		61	188 313 18	13	72	177
	produced in 1991		1,094		4,024	2,594 3,576 1,880 163,540 380,305	211,566 94,772 11,652 106,424	50,210 10,803 61,013	13,606 41,358 8,306 49,664	88,272	19,307 21,834 5,812		9,804	$\begin{array}{c} 54,006 \\ 57,294 \\ 1,752 \\ 110,879 \\ \hline 8,098 \\ \hline 118,977 \\ \end{array}$	19,394 89,484	29,665 1,860 31,525	51,639 1,070 52,709
Method of			strip strip		strip	strip strip strip cont. miner	cont. miner strip auger Total	strip auger Total	strip strip auger Total	strip	strip strip cont. miner		strip	strip strip strip strip auger Total	strip auger	strip auger Total	strip auger Total
Type			surface s		surface	surface surface surface drift drift		surface	surface surface	surface	surface surface drift		surface	surface surface surface surface	surface	surface	surface
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	Township		Репту Репту	7,687 tons	Center	Center Center, Wayne Franklin Wayne	west Yellow Creek Center, Elk Run	Elk Run	Madison Madison	Unity	Center, Wayne Salem Elk Run	3,246 tons	Lafayette,	Inscarawas Adams Mill Creek Adams Franklin, Jackson	Lafayette Linton	Adams, Oxford	Oxford
	Name of mine	Y — (continued)	Camp Ecco Copeland	COLUMBIANA COUNTY - Total production = 1,137,687 tons	Jackson-Strabula Job	Blum-DeVille Job Minick Job DeAngelo-Summitville Job Mountain Spring Coal Co. #13 Mountain Spring Coal Co. #6	Kogers West Point Mine #7 Miller	Lisbon	Black Road West Point	Saviers Mine	Gavers Mine "M" Mine Elkrun 101 Mine	COSHOCTON COUNTY - Total production = 1,316,246 tons	Noble Pit	Newcomerstown Clark Garber Pit Tri-Mac	Shurtz Simco Mine	Downing 36	Bartolec North
	Name of company	CARROLL COUNTY	Regal Mining, Inc. (cont.)	COLUMBIANA COL	Blum Coal Co.	Buckeye-Industrial Mining Co.	C & E Coal, Inc.	Commercial Minerals, Inc.		D. & D. Mining Co.	East Fairfield Coal Co. P & O Coal Co.	COSHOCTON COU	Algem Coal Development	Cro., Inc. Cravat Coal Co. Frances Limestone Co. Miller Mining, Inc. Oxford Mining Co.	Peabody Coal Co.	R & F Coal Co.	

	Cn-814	Cn-HI ⁸	Cn-RF ⁸	Cn-RR ⁸ Cn-825		Gy-310	Gy-311 Gy-304	Gy-313		Hn-700	Hn-228 Hn-710	Hn-222	Hn-238 Hn-751 Hn-748	Hn-2259	Hn-223	Hn-227	Hn-739	Hn-240 Hn-750	Hn-217 Hn-738	
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											34									
	3,950 9,249 13,199	11,854 16,077 27,931	279,132 484,060 763,192	29,430 5,528		68,887	63,694 73,946 10,406 84,352	79,878		864,441	25,469 39,852 386,902 426,754	36,738	2,826 2,569 29,432 56,384 85,816	3,889 1,308 5,197	8,567 19,523 28,090	5,124 8,233 13,357	8,886 8,276 17,162	9,278	41,535 33,970 89,731 123,701	
_	water truck Total	water truck Total	water truck Total	truck		truck	truck water truck Total	truck		truck	truck rail truck Total	truck	truck truck water truck Total	water truck Total	water truck Total	water truck Total	water truck Total	truck	truck water truck Total	
	99	149	268	92		235	235	82		186	91 287	246	$\frac{2}{20}$	61	117	32	84	22 168	104	
	12,942	22,543 7,161 29,704	801,903 1,794 803,697	29,430 5,528		59,834 9,053 68,887	63,694 60,770 23,032 83,802	79,878		864,441	11,232	36,738	2,826 2,569 86,937	5,203	28,330	10,555 3,099 13,654	16,912	9,278 73,123 21,092 94,215	41,535	
_	strip	strip auger Total	strip auger Total	strip strip		strip auger Total	strip strip auger Total	strip		strip	strip cont. miner	strip	strip strip strip	strip	strip	strip auger Total	strip	strip strip auger Total	strip strip	
	surface	surface	surface	surface		surface	surface	surface		surface	surface	surface	surface surface surface	surface	surface	surface	surface	surface	surface	
_	20	30	30	42		26	55	99		46 36	09	56	44 45 56 12	59 26	40	56	50	56 50 22	24	
	9	60	6 57	9		_	L~ 00	7		တတ	89 94	∞ o	88 8A	88 8A	00	8 8A	86	88 84	8,8A H	
	Oxford	Oxford	Oxford	Keene	tons	Monroe	Center Millwood	Center	8 tons	Athens	Green	Green	Archer, Green Monroe Green	Green, Short Creek	Short Creek	Short Creek	Short Creek	Green Cadiz	Green German	
	Wentz-Green	Hathaway-Isleta	Wolf-Isleta	Adams Coshocton Strip	GUERNSEY COUNTY — Total production = 296,261 tons	Anco Mining, Inc.	Warne Strip Watson-Huhn	R. T. G. #7	HARRISON COUNTY — Total production = 1,763,088 tons	Mahoning Valley #36	Hopedale Pit Cadiz Portal	Rose Valley	Jamie Mining Co. Conway Harrah West	Tasa	Reppart	Duncanwood	Mihelios-Pruneski	Sunnydale Mining Co. Smith	Varkony Mining Co. McGinness Bros. Strip	'Averages fewer than one employee per month. No mine number has been assigned by the Division of Mines. See also Jefferson County
_				R & R Minerals, Inc. Sugarcreek Clay & Limestone, Inc.	GUERNSEY COUNT	Empire Coal Co.	Krulock, Inc. R & F Coal Co.	R. T. G., Inc.	HARRISON COUNT	Consolidation Coal Co.	Cravat Coal Co. Harrison Mining Corp.	Huberta Coal Co.	Jamie Mining Co. Mesa Coal Corp. R & F Coal Co.					Sunnydale Mining Co. Valley Mining, Inc.	Varkony Mining Co. W.B. Coal Co., Inc.	Averages fewer than one emp ⁹ No mine number has been as ⁹ See also Jefferson County

1991 OHIO DIRECTORY OF PRODUCING COAL-MINE OPERATORS, BY COUNTY—Continued

	State	number		Hg-324	Hg-321		Hs-97 Hs-86 Hs-67 Hs-7911	Hs-94 Hs-825		Jkn-1065 Jkn-E ¹² Jkn-1069	Jkn-SH ^{12,13,14}	Jkn-1064 Jkn-367		Jfn-788	Jfn-789	Jfn-528 Jfn-816	Jfn-780	Jfn-820	Jfn-784	
ıt	Non-	produc- tion			m		1 1 1 0	0 %		27 00		51		23	70	15	က			
Employment		Sur- face		∞	က		0044	വവ		ကက	18	11 24		12	14	33	6	2	က	
En	Production	Under- ground																		
sition	_	Tonnage		31,089	9,753 12,083 21,836		53,463 138,092 12,931 21,278	76,978		26,866 21,628 51,519 47,356 98,875	45,933 70,905 116,838	61,479		49,256	91,489	335,614	64,316	7,482	25,654	
Disposition		Method		truck	water truck Total		truck truck truck	truck		truck truck water truck Total	water truck Total	truck		truck	truck	truck	truck	truck	truck	
	Days in production	in 1991		236	30		219 296 229 119	234		165	127	259		139	255	190	201	51	35	
	Tonnage			31,089	21,836		53,463 138,092 12,931	76,978 32,317		26,866 21,628 98,875	116,838	61,479		41,030 8,226 49,256	75,452 16,037 91,489	335,614 24,534 18,766 43,300	64,316	7,482	25,654	
		production		strip	strip		strip strip strip	strip		strip strip strip	strip	strip		strip auger Total	strip auger Total	strip strip auger Total	strip	strip	strip	
	Type			surface	surface		surface surface surface		_	surface surface surface	surface	surface surface		surface	surface	surface	surface	surface	surface	
	Thick-	(inches)		36			24233			42 24 16	40 50 16	34		40	54 16	56	56		54	
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	Township	duisimor	ns	Ward	Ward	sus	Clark Clark, Walnut Creek Hardy Braine	Paint, Walnut Creek Clark	ous	Franklin Milton Milton	Milton	Liberty Bloomfield, Madison	27 tons	Knox, Saline	Wayne	Cross Creek Mount Pleasant	Smithfield	Smithfield	Wayne	
	Nama of mina	Manne of nume	X— Total production = 52,925 tons	Hocking Valley Mining #1	Boyle Pit	- Total production = 335,059 tons		wayne willes Trail Pit Hershberger Strip	Y — Total production = 873,360 tons	Oak Hill Bowling Strip Sands Hill Strip #5	Sands Hill Strip #4	Stewart Mine Bowman Strip	JEFFERSON COUNTY — Total production = 1,321,927 tons	Pipo #51	Maine 307	Boich Mining Co. Dunglen	D & L Strip	Piney Fork	F. & M. Strip	
	Month of comments	Name of compariy	HOCKING COUNTY	Hocking Valley Mining	Valley Coal Corp.	HOLMES COUNTY	Holmes Limestone Co.	Miller Mining, Inc. Sugarcreek Clay & Limestone, Inc.	JACKSON COUNTY	Elk Coal, Inc. Sands Hill Coal Co., Inc.		Stewart Coal Co. Waterloo Coal Co., Inc.	JEFFERSON COUP	Anthony Mining Co., Inc.		Boich Mining Co. C L A Coal Co.	D & L Contractors, Inc.		F. & M. Coal Co.	

Hn-22515	Jfn-720	Jfn-817	Jfn-P2 ¹²	Jfn-813	Jfn-687 Jfn-703	Le-454 Le-432		Mg-608 Mg-626	Mg-65	Ms-294	Ms-29316		Me-4		Ne-41 ¹⁷ Mum-901	
01	10	4	က	က	67 œ	9		9	2	133	169		126		129	
	-	18	20	12	30	18		18	22						62	
										371	166		202			
7,298 1,027 8,325	2,368 8,471 10,839	76,144 101,737 177,881	61,330 133,925 195,255	110,190	171,888 30,648	58,237 808,799		14,940 62,964	25,337	3,459,507	1,214,431		1,942,377 284,762 2,227,139		820,712	
water truck Total	water truck Total	water truck Total	water truck Total	truck	truck	truck		truck	truck	conveyor	conveyor 1,214,431		water truck Total		conveyor	
41	91	268	181	248	241 66	119		90	305	257	128		236		59 195	
8,271	10,699	168,672 8,163 176,835	192,257 3,758 196,015	103,851 6,339 110,190	30,648	58,237 808,799		14,940 40,594 19,390 59,984	25,337	2,956,331 498,420 3,454,751	919,008 297,915 1,216,923		1,681,657 446,778 2,128,435		822,531 92,213 75,339 167,552	
strip	strip	strip auger Total	strip auger Total	strip auger Total	strip strip	strip		strip strip auger Total	strip	longwall cont. miner Total	longwall cont. miner Total		longwall cont. miner Total		strip strip auger Total	
surface	surface	surface	surface	surface	surface	surface surface		surface surface	surface	shaft 1	shaft 1		shaft 1		surface s	
26	50	50	50 16 12	60	54	30		21 28 18	30	57	57		09		40	
8 8A	88 84	88 9	88 88	88 8A	∞ ∞	3A 4A 5	-	9 4 9	4	4A	4A		∞		69	
Smithfield	Wayne	Wayne	Wayne	Green, Smithfield	Wells Wells tons	Elizabeth Washington	tons	Poland Springfield	Beaver	Columbia	Salem	cons	Salem	053 tons	Meigs Monroe	
	Varkony-Polen	Arrowhead	Polen II	York	on Construction Co. #19 x Coal Co. Zimnox #4 Wells LAWRENCE COUNTY — Total production = 867,036 tons	Ohio #2 Ohio #1	MAHONING COUNTY Total production = 100,261 tons	Bessemer Pit "HP" Mine	Peres Mine Total production = 4.671.674 tox	Meigs Mine #2	Meigs Mine #31	Y — Total production = 2,128,435 tons	Powhatan #4	MUSKINGUM COUNTY — Total production = 1,236,053 tons	Muskingum Mine Waters	Veverages fewer than one employee per month. 19 See also Wayne County. 12 No mine number has been assigned by the Division of Mines. 18 See also Vinton County. 18 Employment reported for Jkn-SH includes employment for Jkn-1069. 18 See also Harrison County. 17 See also Noble County.
R & F Coal Co.				Valley Mining, Inc.	Weirton Construction Co. Zimnox Coal Co. LAWRENCE COUN	Addington, Inc.	MAHONING COUP	E.M.A.I. Corp. East Fairfield Coal Co.	Thompson Bros. Mining Co. MEIGS COUNTY —	Southern Ohio Coal Co.		MONROE COUNTY	Quarto Mining Co. (subsidiary of Consolidation Coal Co.)	MUSKINGUM COL	Central Ohio Coal Co. Oxford Mining Co.	10 Averages fewer than one employee per month. 11 See also Wayne County. 12 No mine number has been assigned by the Div. 13 See also Vinton County. 14 Employment reported for Jkn-SH includes em. 15 See also Harrison County. 17 See also Noble County. 17 See also Noble County.

1991 OHIO DIRECTORY OF PRODUCING COAL-MINE OPERATORS, BY COUNTY—Continued

									Dispo	Disposition	Emp	Employment	14	
Nama of company	Nome of mine	Townshin	Coon	Thick-	Type	Method of	Tonnage	Days in			Production	-	Non-	State
famic or company	TABLE OF HILLS	d Trout No.		(inches)	mine	production		in 1991	Method	Tonnage	Under- S ground f	Sur- p	produc- tion	number
MUSKINGUM COUNTY (continued)	JNTY (continued)													
Sands Mining Corp.	Montgomery Pit	Washington	0 02	30	surface	strip auger Total	241,686 4,284 245,970	202	truck	245,970		27	10	Mum-900
Thompson Mining Co.	Harkness Pit	Newton	22	45	surface		18		truck	3,555		19	က	Gy-308
NOBLE COUNTY -	Total production = 2,799,922 tons	suc												
B & N Coal, Inc.	Shevlin Lee Pit Ullman Shilling Arnold Guiler	Elk Elk Jefferson Jefferson Jefferson Marion	000000	00000000000000000000000000000000000000		strip strip strip strip strip strip	84,709 18,827 115,687 131,262 46,782 87,606	235 62 202 252 126 73		84,709 18,827 115,687 131,262 46,782 87,606		222		Ne-150 Ne-155 Ne-151 ²⁰ Ne-1008 Ne-B ²¹ Ne-146
Central Ohio Coal Co.	Pour House Muskingum Mine	Marion Brookfield, Noble, Sharon	o o	41	surface		302,787 1,726,252 129,728 1,855,980	190	truck	302,787 1,853,595		151		Ne-154 Ne-41 ²²
King Quarries, Inc.	Nau Long-LaFever	Buffalo Beaver	4 0	40	surface	strip strip auger Total	39,218 112,311 4,753 117,064	290	truck water truck Total	39,218 55,615 63,028 118,643		11 12	23.23	Ne-152 Ne-147
PERRY COUNTY -	- Total production = 196,484 tons	- an-												
Buckingham Mining & Reclamation Inc	Buckingham Mining & Reclamation Inc	Monroe, Salt Lick	9	51	surface	strip	118,222	240	truck	118,222		16	4	Py-340
Crooksville Coal Co., Inc.	Roger's Hollow Crooksville Strip	Salt Lick Bearfield	· O 10 4	5025	surface	strip strip	27,091 50,561	65 252	truck	27,091 50,650		8 20	co 4	$Py-B^{21}$ $Py-317^{23}$
Dennis Clay Co.	Crooksville Coal Co., Inc. County Rd. 7 Mine	Jackson Monday Creek	9 2 2 9	39 12 18	surface	strip strip	610		truck	610				Py-335 Py-338
STARK COUNTY -	- Total production = 475,340 tons	- 00 -												
American Landfill, Inc. Buckeye-Industrial Mining	American Landfill, Inc. Clapper-Cable-Fox	Sandy Osnaburg	5,6	24 30	surface	strip strip	46,413	121 148	truck truck	46,413		on ∞	П	Sk-246 Sk-247
	Scott	Osnaburg, Sandy	5,6	33	surface	strip auger Total	108,296 28,607 136,903	148	truck	136,903		00	-	Sk-245
East Ohio Limestone Co. ENZ, Inc. Hillcrest Coal, Ltd.	East Ohio Limestone Co. Sickafoose Pit Hillcrest Coal, Ltd.	Lake Sandy Osnaburg	44700	40 42 20 24	surface surface surface	strip strip strip	8,599 58,778 286	259 4	truck truck truck	8,599 58,778 286		m oo m	2 2 1	Sk-663 Sk-208 Sk-221
Holmes Limestone Co.	Bolivar Mine Bolivar	Bethlehem Bethlehem	5,5A 5	3008	surface	strip strip	56,096	151 31	truck truck	56,096		1	19	Sk-235 Sk-H ²¹
Valley Mining, Inc.	Statewide RDF	Canton	9 2 2	36	surface	strip	30,595	104	truck	30,595		4	73	Sk-WM ²¹
TUSCARAWAS CO.	TUSCARAWAS COUNTY Total production = 1,923,964 tons	3,964 tons												
Belden Brick Co.	Shanesville Belden	Auburn Sugar Creek	4 3B	30	surface	strip	2,328		truck	2,328		1 2	7 7	Ts-1939 Ts-1646

		_	_	_						_	_		
Daron Coal Co., Inc.	Pleasant Valley Mine	Union	6A 6	26 42 20	surface	strip auger Total	152,329 62,784 215,113	258	truck	215,113	15	2	Ts-1991
Empire Coal Co.	Empire Coal Co.	Clay, Salem	10 01	34	surface	strip auger Total	100,851 30,751 131,609	240	truck	125,358	37	23	Ts-115
	Valley Mining, Inc.	Salem	- 10 9		surface	strip auger Total	113,703 70,572 184,275	200	truck	184,275	31	11	Ts-2015
Fairpoint Coal Co.	7 Mile Drive	Fairfield	9 1	48	surface	strip	10,114	140	truck	10,114	2	2	Ts-2012
Holmes Limestone Co.	Stone Creek	Jefferson, York	- 1-	30	surface	strip auger Total	115,359 3,566 118,925	596	truck	118,925	œ	-	Ts-2023
	Dennison	Rush	2	30	surface	strip auger Total	86,303 30,334 116,637	596	truck	116,637	6	-	Ts-2017
J D Mining, Inc.	Baltzley Valley Mine Craig Pit	Goshen Goshen	6 5 7	18 23 40	surface	strip strip auger Total	197 64,604 7,113 71,717	2 254	truck	197	7.5	87	Ts-2000 Ts-JD ²¹
James Bros. Coal Co. Kimble Clay & Limestone Co.	Tunnel Hill Kimble Clay & Limestone Co.	Sandy Dover	5,6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	20 20	surface	strip strip	16,833	23	truck truck	16,833	70 4	7 7 7	Ts-2028 Ts-K1 ²¹
	Kimble Clay & Limestone Co.	Dover	י פי פ	288	surface	strip	6,661	10	truck	6,661	-	က	Ts-K221
	Kimble Clay & Limestone Co.	Dover	3A	20 00	surface	strip	19,864	37	truck	19,864	ಬ	က	Ts-K321
	Kimble Clay & Limestone Co.	Dover	4 9	42	surface	strip auger Total	7,588 1,116 8,704	09	truck	8,704	m	<u></u>	Ts-K4 ²¹
	Kimble Clay & Limestone Co.	Dover, Sugar Creek	3A 5	20 20 20 20 20 20 20 20 20 20 20 20 20 2	surface	strip	35,578	149	truck	35,578	67	1	Ts-1727
	Kimble Clay & Limestone Co.	Auburn, York	6 5 5	8888	surface	strip	113,040	254	truck	113,040	9	73	Ts-2019
	Kimble Clay & Limestone Co.	Sugar Creek, Wayne	0 A A 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	36 20 36	surface	strip auger Total	36,179 248 36,427	116	truck	36,427	4	-	Ts-2022
L & M Mineral Co. Red Malcuit, Inc.	Evans-Cox Luikert Spring RMI #2	Mill, Rush Mill, Warwick Mill, Warwick Franklin	7 5,6 6 3A 4	40 28 18	surface surface surface surface	strip strip strip strip auger Total	5,965 24,878 2,898 58,138 493 58,631	10 30 5 5 5 269	truck truck truck truck	5,965 27,288 2,898 58,631	0.0100	ကကက	Ts-1884 Ts-1914 Ts-1982 Ts-2007
	RMI #3	Sandy	6 51	36	surface	strip auger Total	16,840 4,606 21,446	122	truck	21,446	4		Ts-2006
	RMI #1	York	6 52	30	surface	strip auger Total	19,131 1,097 20,228	107	truck	20,228	m	က	Ts-1918
18No production, sales only.	y.												

"No production; sates one employee per month."

"Mover also Washington County."

"See also Washington County."

"See also Mashington County."

"See also Muskingum County."

"See also Muskingum County."

"See also Muskingum County."

1991 OHIO DIRECTORY OF PRODUCING COAL-MINE OPERATORS, BY COUNTY—Continued

į	State	пашрег		Ts-RM ²⁴	Ts-GC ²⁴ Ts-2027	Ts-MMI24	Ts-197 Ts-2020 Ts-2002 Ts-2010	Ts-WS ²⁴ Ts-DW ²⁴	Ts-2005	Ts-2011	Ts-V ²⁴	Ts-2014	Ts-1999	Ts-540	Vn-191 ²⁶	Vn-18826	Vn-623	Vn-B ²⁴	Vn-BD ²⁴
int	Non-	tion			1		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	25	7	າດ		73	-		œ				11
Employment	ction	face		4	29	2	4 3 15	∞ ⊣	ro	16	4	4	25	1	52	13	22	H	2
Er		ground																	
Disposition	Tonnage			29,986	8,428 23,904	13,966	26,838 7,764 58,794 82,867 71,706 154,573	11,203 3,514 5,648 9,162	45,667	145,825	30,099	26,299	2,219	2,383	306,292	97,865	1,484	22,591	26,331
Dispo	Method			truck	truck	truck	truck truck truck rail truck Total	truck water truck Total	truck	truck	truck	truck	truck	truck	truck	truck	truck	truck	truck
	Days in production in 1991	1661 111		112	16 106	70	107 37 255 255	77	248	255	188	214	4	22	149	29	2	80	65
E	Tonnage produced p	1661 III		19,693 10,293 29,986	8,428	13,966	26,838 7,764 58,794 208,448	11,203 5,653 3,713 9,366	32,302 13,365 45,667	116,538 29,287 145,825	22,963 7,136 30,099	20,524 5,775 26,299	1,370 849 2,219	2,383	306,292	97,865	1,484	22,591	26,331
	Method of production	$\overline{}$		strip auger Total	strip strip	strip	strip strip strip	strip strip auger Total	strip auger Total	strip auger Total	strip auger Total	strip auger Total	strip auger Total	strip	strip	strip	strip	strip	strip
	Type of	\rightarrow		surface s	surface s	surface s	surface surface surface surface surface	surface s	surface s	surface s	surface s	surface s	surface s	surface s	surface s	surface s	surface s	surface	surface s
	Thick- ness (inches)			30	00 00	02		28	20 80 80	28 36 42	28 42 42	42 28 28	34	Ø	24 24 24	24 24 8			
	Seam			6 5	5,6	9	5,6 3A,4 5,6	3A,4 7	7	7	6 57	6		4	4 5 9 1	-4100	o m =	# m ≺	† ₩ 4
	Township			York	Auburn, Bucks Auburn, Jefferson,	Auburn, Sugar Crook	Dover Franklin Sugar Creek Sugar Creek	Sugar Creek Mill	Mill	Mill	Mill	Salem	Union	Sandy	Clinton	Elk	Clinton	Clinton	Clinton
	Name of mine		NTY (continued)	RMI #1A	General Clay-Scarr Mizer	Burky	Schindler-Fondriest et al. Newton Shrock-Troyer-Miller Mast-Miller et al.	Swihart DeLong-Wilsterman	Heddleston	Lattavo	Hershberger	Gibson	Page	fining Co. Zoar Mining Co. Sar Winy Sar VINTON COUNTY — Total production = 2,618,565 tons	Dundas Job	Route 50 Job	B. & D. Coal #1	B. & D. Coal #1	B. & D. Coal #1
	Name of company		TUSCARAWAS COUNTY (continued)	Red Malcuit, Inc. (con't)	Miller Mining, Inc.			R & F Coal Co.	Valley Mining, Inc.					Zoar Mining Co. VINTON COUNTY —	Addington, Inc.		B. & D. Coal, Inc.		

Vn-183 Vn-184 Vn-187	Vn-172 Vn-163 Vn-186 Vn-182	Vn-19126	Vn-18826	Vn-S ²⁴	Jkn-SH ^{24, 28}	Ms-293 ²⁹	Ne-15130	Hs-79 ³¹
	L 23 4			40		185	25	25
	8 1 1 4	19	12	15	18		73	5
						166		
	150,452 5,173 242,715	140,430	87,904	85,977 113,741 199,718	45,932 70,906 116,838	conveyor 1,214,431	30,970	21,278
truck truck truck	truck truck truck truck	truck	truck	water truck Total	water truck Total	conveyor	truck	truck
	142 10 158	86	73	191	128	127	78	117
27 27 27	150,452 5,173 246,566	140,430	87,904	199,718	116,838	919,006 297,915 1,216,921	30,970	21,278
strip strip strip	strip strip strip strip	strip	strip	strip	strip	longwall cont. miner Total	strip	strip
surface surface surface	surface surface surface surface	surface	surface	surface	surface	drift	surface	surface
24			24 4 24 24 24 24 24 24 24 24 24 24 24 24	24 34 15	114 40 50 16	57	30	24
4,W W,4A, 5 W W	0 0 0 4 4 8 4 70, 0 9, 0	10 4 10	0410	9 A 4 S S	6A 4A 5	4A	6	4
Clinton Elk .	Swan Elk Elk Madison	Clinton	Elk	Clinton	Clinton	Wilkesville	970 tons Salem	Franklin
Waldron Pit Allied West Austin Pit	Mitchell Hollow McArthur Fit Stewart Fit Green Fit	3300 Pit	Rte. 50 Pit	Sands Hill Strip #3	Sands Hill Strip #4	Meigs Mine #31	WASHINGTON COUNTY — Total production = 30,970 tons Coal, Inc. Ullman WAYNE COUNTY — Total production = 21,278 tons	Wayne Mines
A Au								

²⁴No mine number has been assigned by the Division of Mines.

²⁵Averages fewer than one employee per month.

²⁶This mine was operated 1st and 2nd quarter 1991 by Quality Coal Co., and 3rd and 4th quarter by Addington, Inc.

²⁷This perior was filed in 1991.

²⁸See also Aetkson County.

²⁸See also Mega County.

³⁸See also Mega County.

³⁸See also Moble County.

³⁸See also Holmes County.

1991 OHIO ALPHABETICAL DIRECTORY OF INDUSTRIAL-MINERAL MINE OPERATORS

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Addington, Inc. 9431 U.S. Route 60 Ashland, KY 41101-9527 606-928-3433 Larry Addington, pres.	Addington, Inc. (159) (93)	Lawrence	limestone clay	81,727 3,568	81,727 3,568	Le-A ¹	IM-1072
Agg Rok Materials Div. of Wapak Sand & Gravel Co. 711 Frank Rd. Columbus, OH 43223 614-444-4422 Ralph E. Heffner, pres.	Agg Rok Materials (94)	Franklin	sand & gravel	470,541	463,782	Fn-36	IM-302
Akzo Salt, Inc. P.O. Box 6920 Cleveland, OH 44101 216-651-7200 Alan B. Graf, pres.	Cleveland Mine (1)	Cuyahoga	salt	1,416,904	997,928	Cya-30	
Akzo Salt, Inc. 2065 Manchester Rd. Akron, OH 44309-0149 216-745-0031 Alan B. Graf, pres.	Akzo Salt, Inc. (4)	Summit	salt	233,741	230,938	St-9127	
Alan Stone Co., Inc. P.O. Box 127 Chesterhill, OH 43728 614-554-6191 Ruth E. Janes, pres.	Marietta Quarry Alan Stone Co., Inc. (43)	Belmont Washington	sandstone sandstone	2,104	2,104	Bt-1193 Wn-45	IM-1117 IM-125
William Albert, Inc. 1300 Cassingham Hollow Rd. Coshocton, OH 43812 614-622-3045 William Albert, pres.	William Albert, Inc. (438) (88)	Coshocton	sand & gravel clay	27,676	29,488	Cn-828	IM-1026
Alden Sand & Gravel Co. 2584 Northampton Rd. Cuyahoga Falls, OH 44223 216-928-3249 Joan Alden, pres.	Alden Sand & Gravel Co. (496)	Summit	sand & gravel	12,443	12,443	St-55	IM-932
Alexandria Materials Co. P.O. Box 7 Alexandria, OH 43001 614-924-6611 Richard Hall, pres.	Alexandria Pit (173) (172)	Licking	sand & gravel limestone	4,788 1,948	1,482 673	Lg-8	IM-271
All Stone Co. 8858 County Rd. 192 Fredericksburg, OH 44627 216-695-3401 Joe L. Knott & Abe L. Miller, partners	All Stone Co. (153)	Coshocton	limestone	609	609	Cn-A ¹	IM-1011
Allgeier & Son, Inc. 6386 Bridgetown Rd. Cincinnati, OH 45248 513-574-3735 Earl W. Allgeier, pres.	Allgeier & Son, Inc. (467) Allgeier & Son, Inc. (521)	Hamilton Hamilton	sand & gravel sand & gravel	38,500	38,500	Hmn-AS1 Hmn-AS11	IM-1106 IM-797
Allied Corp., Inc. 1750 Highland Dr. Twinsburg, OH 44087 216-425-7861 Charles Rauh, pres.	Allied Corp., Inc. (435)	Stark	sand & gravel	2		Sk-173	IM-879
American Aggregates Corp. P.O. Box 147515 Dayton, OH 45413-7515 513-454-1128 Geoff C. Harris, pres.	Hamilton #710 (29) Fairfield #711 (30) Urbana #410 (48) Springfield #423 (16) Fairborn #413 (52) Fort Jefferson #424 (19) Delaware Stone #227 (22) Shawnee #225 (20) Blue Rock Limestone #427 (27) Sugar Creek Plant #223 (29)	Butler Butler Champaign Clark Clark Darke Delaware Delaware Fayette Fayette	sand & gravel sand & gravel sand & gravel limestone sand & gravel limestone limestone limestone limestone limestone	651,160 1,518,791 224,416 129,754 615,596 425,272 38,485 577,642 214,668	624,195 1,375,052 319,344 118,825 701,801 582,525 94,589 677,472 317,209	Br-35 Cpn-1 Ck-1 Ck-13 Dke-1 Del-3 ³	IM-153 IM-200 IM-371 IM-373 IM-366 IM-362 IM-327 IM-262 IM-169 IM-329

Name, address, telephone number, and president/owner/manager	Name of mine (and map	County	Commodity	1991 sales	1991 production	State mine	Division of Reclamation
of company	location number)			(tons)	(tons)	number	permit numbe
American Aggregates Corp. (con't)	Marble Cliff #224 (30) Columbus #210 (95) Lockbourne #213 (96) Columbus Limestone #221 (31) Cedarville Limestone #425 (32) Fairborn Limestone #431 (142) Haines Rd. #419 (405) Xenia #414 (110) Spring Valley Gravel #434 (404) Beavercreek Limestone #426 (155) Harrison #712 (118) Whitewater Gravel #715 (407) Kilby Rd. #713 (119)	Franklin Franklin Franklin Greene Greene Greene Greene Greene Hamilton Hamilton	limestone sand & gravel sand & gravel limestone limestone limestone sand & gravel sand & gravel limestone sand & gravel sand & gravel sand & gravel sand & gravel	1,788,044 1,582,438 122,397 1,890,919 291,135 223,085 180,415 462,047 321,991 6,203 897,888 442,795 249,014	2,014,861 1,284,640 6,460 1,999,043 405,956 193,636 171,158 548,979 411,530 45 613,132 432,064 227,804	Fn-2 Fn-6 Fn-23 Fn-53 Ge-17 Ge-25 Ge-32 Ge-32 Ge-42 Ge-45 Hmn-37 Hmn-69 ⁴	IM-261 IM-185 IM-185 IM-185 IM-435 IM-437 IM-400 IM-379 IM-954 IM-964 IM-170 IM-969 IM-716
	Newark #214 (174) Connolly Limestone #226 (49) Troy Gravel #433 (219) Piqua Gravel #430 (216) Tipp City Gravel #435 (220) Phillipsburg Limestone #421 (70) Dayton Limestone #420 (71) Huber Heights Limestone #432 (143) Rip Rap Road #416 (224) Circleville #216 (251)	Licking Logan Miami Miami Miami Montgomery Montgomery Montgomery Pickaway	sand & gravel limestone sand & gravel sand & gravel limestone limestone limestone sand & gravel sand & gravel	165,698 167,741 317,113 45,152 0 440,717 124,163 100,924 322,260 236,396	295,039 250,736 390,069 22,112 9,400 417,132 413,505 149,343 435,516 288,715	Lg-2 Lgn-16 Mi-3 Mi-6 Mi-8 My-1 My-23 My-32 My-66 Pky-1	IM-184 IM-574 IM-462 IM-356 IM-355 IM-374 IM-368 IM-1012 IM-677 IM-409, IM-42
	Franklin #714 (349)	Warren	sand & gravel	363,662	394,758	Wan-38	IM-615
American Landfill, Inc. 7916 Chapel St. SE Waynesburg, OH 44688 216-856-8800 Darrell Wilson, pres.	American Landfill, Inc. (123) (123)	Stark	clay shale	225,791 17,579	225,791 17,579	Sk-246	IM-1114
American Olean Tile Co., Inc. Lewisport, KY 42351 502-295-3411 Hervey Howell, mgr.	Jefferys (24)	Lawrence	clay	7		Le-440	IM-828
American Sand & Gravel 8188 Wales Rd. NW North Canton, OH 44720 216-494-6455 Christopher Scala, pres.	American Sand & Gravel (387) American Sand & Gravel (386) American Sand & Gravel (455) American Sand & Gravel (337)	Portage Stark Stark Summit	sand & gravel sand & gravel sand & gravel sand & gravel	1,900 22,000 58,000 41,500	1,900 22,000 58,000 41,500	Pe-ASG ⁵ Sk-203 Sk-243 St-29	IM-212 IM-654 IM-908 IM-203
Apache Aggregate & Paving Co. 46626 County Rte. 495 Coshocton, OH 43812 614-622-5904 Charlene Ross, pres.	Apache Aggregate & Paving Co. (69) Apache Aggregate & Paving Co. (70)	Coshocton Coshocton	sand & gravel sand & gravel	80,830	69,087	Cn-718 Cn-783	IM-227 IM-717
Ashcraft Sand & Gravel, Inc. 5840 Dry Fork Rd. Cleves, OH 45002 513-367-2177 Rick Ashcraft, v. pres.	Ashcraft Sand & Gravel, Inc. (120)	Hamilton	sand & gravel	76,741	76,741	Hmn-54	IM-710
Athens Hocking Reclamation Center 35380 Hocking Dr. P.O. Box 946 Logan, OH 43138 614-385-6019 Edward F. Kilbarger, pres.	Athens Hocking Reclamation Center (81)	Athens	clay	1,084	1,084	As-594	
Atlantic Investment Co. 4530 Talmadge Green Toledo, OH 43623 419-471-9589 Greg Trala & Tom Crawford, partners	Atlantic Investment Co. (471)	Lucas	sand & gravel	177,276	177,276	Ls-AI ⁵	IM-1058
Atlas Towing Co. P.O. Box 1632 Parkersburg, WV 26101 304-428-0341 Christopher V. Criss, pres.	Belpre Bank Run (432)	Washington	sand & gravel	25,859	25,859	Wn-54	IM-383

This mine was operated January through April 1991 by Whitewater Aggregates, Inc., and May through December by American Aggregates Corp.

No mine number has been assigned by the Division of Mines.

This mine was operated January through April 1991 by Connolly Construction Co., Inc., and May through December by American Aggregates Corp.

No sales or production.

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Aurora Sand & Gravel, Inc. 60 Treat Rd. Aurora, OH 44202 216-641-0300 Gary Helf, pres.	Aurora Sand & Gravel, Inc. (260)	Portage	sand & gravel	84,900	191,188	Pe-84	IM-868
Ayers Limestone Quarry, Inc. 2000 Colerain Pike P.O. Box 67 Martins Ferry, OH 43935 614-633-2958 Thomas E. Ayers, pres.	Ayers Limestone Quarry, Inc. (12)	Belmont	limestone	103,882	103,882	Bt-716	IM-1
B & D Paving Co. P.O. Box 463 Powhatan Point, OH 43942 304-233-6505 Suzanne Hendershot, pres.	B & D Paving Co. (424)	Monroe	sand & gravel	8,450	8,450	Me-508	IM-1000
B-M Machine Co. 12264 Princeton Rd. Huntsburg, OH 44046 216-635-9151 Robert Zalar, owner	B-M Machine Co. (442)	Geauga	sand & gravel	8		Gea-39	IM-974
Bada, Inc. Route 5, Box 409 Millersburg, OH 44654 216-674-0677 Robert C. Ross, pres.	Bada, Inc. (524)	Holmes	sand & gravel	8		Hs-B ⁹	IM-1131
Baker Sand, Inc. 7800 White Rd. Burbank, OH 44214 216-948-1448 Thom E. Baker, pres.	Baker Sand, Inc. (203)	Medina	sand & gravel	628,543	628,543	Ma-20	IM-448
Barrett Paving Materials, Inc. Ohio Division 7374 Main St. Cincinnati, OH 45244 513-271-6200 Xavier Lepercq, pres.	Perintown (59) Newtown Sand & Gravel (434)	Clermont Hamilton	sand & gravel sand & gravel	8		Ct-9 Hmn-56	IM-526 IM-631
Barrett Paving Materials, Inc. 9570 State Rte. 128 Harrison, OH 45030 513-271-6200 Xavier Lepercq, pres.	Miamitown Sand & Gravel (121)	Hamilton	sand & gravel	8		Hmn-44	IM-120
Barrett Paving Materials, Inc. Miami Valley Division 727 E. Ash St. P.O. Box 917 Piqua, OH 45356-0917 513-773-1933 Lloyd B. Fry, mgr.	Barrett Paving Materials, Inc. (461) Gregory Stone (66) Ticon Corp. (390)	Clark Miami Miami	sand & gravel limestone sand & gravel	43,000 207,824 8	43,000 207,824	Ck-B ⁹ Mi-502 Mi-T ⁹	IM-1100 IM-414 IM-696
Beaver Creek Resources, Inc. 7219 Salem-Unity Rd. Salem, OH 44460 216-337-3534 Delyte DeYarmon, pres.	Beaver Creek Resources, Inc. (64) (3)	Columbiana	sand & gravel sandstone	4,459 84,482	4,459 84,482	Ca-855	IM-891
Beaver Excavating Co. 4650 Southway St. SW Canton, OH 44706 216-478-2151 W. M. Sterling, pres.	Beaver Excavating Co. (100)	Portage	clay	500,000	500,000	Pe-B ⁹	IM-1054
Beck Sand & Gravel, Inc. 2820 Webb Rd. Ravenna, OH 44266 216-626-3863 Robert E. Wenrich, pres.	Beck Sand & Gravel, Inc. (256)	Portage	sand & gravel	311,925	311,925	Pe-50	IM-96
Becky Lane Trucking, Inc. 441 Iowa St. Ashland, KY 41101 606-325-8301 Janet Griffiths, pres.	Becky Lane Sand (167)	Lawrence	sand & gravel	32,988	32,988	Le-430	IM-844

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Paul D. Beery Trucking Co. 4770 Cincinnati-Zanesville Rd. NE Lancaster, OH 43130 614-653-5061 Paul D. Beery, pres.	Paul D. Beery Trucking Co. (401)	Fairfield	sand & gravel	8,572	4,878	Fd-14	IM-933
Belden Brick Co. P.O. Box 910 Canton, OH 44701 216-852-2424 William H. Belden, Jr., pres.	Moomaw Pit (56) (56) Belden Pit (57) (57) Wallick Pit (58) (58) Shanesville Pit (59) (59) Beagle Pit (60)	Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas	clay shale clay shale clay shale clay shale clay	67,065 58,843 21,297 46,247 132,308 2,369 23,732 106,120 13,202	67,065 58,843 21,297 46,247 132,308 2,369 23,732 106,120 13,202	Ts-1517 Ts-1646 Ts-1841 Ts-1939 Ts-1960	IM-46 IM-44 IM-45 IM-47 IM-48
John W. Belu P.O. Box 91 Avon, OH 44011 216-934-1100 John W. Belu, owner	Belu Sand Pit (191)	Lorain	sand & gravel	10		Ln-12	IM-731
Benco Leasing, Inc. State Rte. 416 Rte. 3 New Philadelphia, OH 44663-9507 216-339-3339 Ben Cookson, pres.	Goshen Sand & Gravel (389)	Tuscarawas	sand & gravel	25,526	43,476	Ts-1976	IM-941, IM-94
Best Sand Corp. 11830 Ravenna Rd. P.O. Box 87 Chardon, OH 44024 216-946-3441 William E. Conway, pres.	Best Sand Corp. (17)	Geauga	sandstone	587,163	776,315	Gea-3	IM-89
Beverly Slag Co. P.O. Box 599 McConnelsville, OH 43756 614-962-5621 Fred R. Price, pres.	Devola Pit (364)	Washington	sand & gravel	10		Wn-55	IM-669
Big Walnut Sand & Gravel Co. 88 W. Mound St. Columbus, OH 43215-5018 614-224-2678 Steven D. Rowe, partner	Big Walnut Sand & Gravel Co. (97)	Franklin	sand & gravel	15,067	15,067	Fn-14	IM-832
Black Top Contracting, Inc. P.O. Box 98 Belpre, OH 45714 614-423-5455 Terry R. Wyatt, pres.	Black Top #1 (19)	Athens	sand & gravel	17,906	17,906	As-588	IM-630
E. E. Blair Construction Co. P.O. Box 39 Wheelersburg, OH 45694 614-574-6575 Edwin E. Blair, pres.	Blair Pit (303)	Scioto	sand & gravel	125,000	120,793	So-98	IM-474
Blue Jay Enterprises of Tuscara- was Co., Inc. P.O. Box 641 Zoar, OH 44697 216-874-2048 Leland D. Ervin, pres.	Swanger-Waltz Mine (85) (85)	Tuscarawas	clay shale	21,014 11,493	21,014 11,493	Ts-520	IM-214
Bluffton Stone Co. P.O. Box 26 Bluffton, OH 45817-0026 419-358-6941 Brent C. Gerkin, pres.	Bluffton Stone Co. (3)	Allen	limestone	157,365	157,365	An-1	IM-485
Timothy L. Bolduc 8173 Hill Ave. Holland, OH 43528 419-866-4580 Timothy L. Bolduc, owner	Timothy L. Bolduc (527)	Lucas	sand & gravel	87,086	45,086	Ls-TB ¹¹	IM-1116

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit numbe
Bolin & Bartley, Inc. 1217 County Rd. 1475 R.D. 1 Ashland, OH 44805 419-289-1507 Clarence W. Bolin, treas.	Simington Rd. (509) Bolin & Bartley Sand & Gravel (409)	Ashland Richland	sand & gravel sand & gravel	1,838 58,289	1,838 52,307	Ald-16 Rd-20	IM-1120 IM-617
Elmer Borchardt, Inc. 313 E. Lucas St. P.O. Box 188 Castalia, OH 44824-0188 419-684-5361 Dean Wikel, pres.	Elmer Borchardt, Inc. (83)	Erie	sand & gravel	312	0	Ee-18	IM-676
Bowerston Shale Co. 1329 Seven Hills Rd. NE Newark, OH 43055 614-763-3921 William U. Milliken, pres.	Hanover (31) Frazeysburg (38)	Licking Muskingum	shale clay	22,182 4,020	22,182 4,020	Lg-501 Mum-776	IM-257 IM-256
Bowerston Shale Co. 515 Main St. Bowerston, OH 44695 614-269-2921 William U. Milliken, pres.	Bowerston (11) Bowerston Shale Co. (109)	Harrison Harrison	shale shale	24,534	24,534	Hn-152 Hn-B ¹³	IM-42 IM-1020
D. H. Bowman & Sons, Inc. 1201 State Rte. 97 Bellville, OH 44813-1227 419-886-2711 Richard D. Bowman, pres.	D. H. Bowman & Sons, Inc. (287)	Richland	sand & gravel	39,124	48,124	Rd-4	IM-279
Boyas Excavating, Inc. 4100 Brookpark Rd. Cleveland, OH 44134-1196 216-398-3900 Pete Boyas, pres.	Boyas' Valley View Quarry (13)	Cuyahoga	sandstone	6,750	6,750	Cya-42	IM-686
Boyd Gravel Co. 24270 Twp. Rd. 1202 Coshocton, OH 43812 614-622-4406 Richard Mill, pres.	Boyd Gravel Co. (71)	Coshocton	sand & gravel	171,729	267,145	Cn-694	IM-293
Briar Hill Stone Co. P.O. Box 457 Glenmont, OH 44628 216-377-5100 L. M. Shope, v. pres.	Quarry #26 (4) Quarry #3 (5) Quarry #32 (6) Quarry #24 (7) Quarry #18 (8) Quarry #55 (44) Quarry #31 (19) Quarry #6 (23)	Coshocton Coshocton Coshocton Coshocton Coshocton Coshocton Holmes Knox	sandstone sandstone sandstone sandstone sandstone sandstone sandstone sandstone	2,561 5,120 2,513 12 1,158 12 6,949 72 1,286	2,561 5,120 2,513 1,158 6,949 0 1,286	Cn-13 Cn-659 Cn-686 Cn-692 Cn-695 Cn-809 Cn-815 Hs-49 Kx-12	IM-397 IM-232 IM-504 IM-294 IM-402 IM-909 IM-939 IM-418 IM-445
Briggs Sand & Gravel, Inc. Rte. 4 County Rd. 10 Box 303 Marietta, OH 45750 614-373-3363 James F. Briggs, pres.	Briggs Sand & Gravel, Inc. (365)	Washington	sand & gravel	9,243	9,243	Wn-508	IM-57
Broadway Sand & Gravel, Inc. 2000 Sandridge Dr. Dayton, OH 45439 513-299-1166 George D. Jones, v. pres.	Broadway Sand & Gravel, Inc. (225)	Montgomery	sand & gravel	38,976	38,976	My-65	IM-594
Broshear Contractors, Inc. 2520 Millville-Ross Rd. Hamilton, OH 45013 513-863-3388 Clarence Broshear, pres.	Ross Township Gravel (31)	Butler	sand & gravel	7,524	7,524	Br-48	IM-562
Brown County Rock Crusher State Rte. 221 Georgetown, OH 45121 513-377-2975 Brown County Board of Commissioners	Brown County Rock Crusher (14)	Brown	limestone	12		Bn-1	

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Browning-Ferris Industries of Ohio, Inc. 530 N. Camp Rd. Port Clinton, OH 43452 419-635-2615 Jim Cosman, pres.	Browning-Ferris Industries of Ohio, Inc. (96)	Ottawa	clay	142,000	142,000	Oa-B ¹⁴	IM-1084
Browning-Ferris Industries of Ohio, Inc. 2175 Adamsville Rd. Zanesville, OH 43701 614-452-8289 Timothy C. Landers, district mgr.	BFI Muskingum Landfill (117)	Muskingum	clay	15		Mum-B ¹⁴	IM-1119
Karl Brugmann Sand & Gravel, Inc. 8420 Weaver Rd. Ravenna, OH 44266 216-626-3914 Donald H. Brugmann, owner	Karl Brugmann Sand & Gravel, (257)	Portage	sand & gravel	88,520	79,554	Pe-15	IM-104
Oscar Brugmann Sand & Gravel, Inc. 3828 Dudley Rd. Mantua, OH 44255 216-274-8224 Roy Brugmann, pres.	Oscar Brugmann Sand & Gravel, Inc. (258)	Portage	sand & gravel	368,609	389,500	Pe-9	IM-119
James Bunnell, Inc. 5730 State Rte. 128 Cleves, OH 45002 513-353-1100 James Bunnell, pres.	James Bunnell, Inc. (123) James Bunnell, Inc. (124) James Bunnell, Inc. (519)	Hamilton Hamilton Hamilton	sand & gravel sand & gravel sand & gravel	641 496,118 353	641 496,118 353	Hmn-50 Hmn-59 Hmn-B ¹⁴	IM-205 IM-815 IM-1139
Burlington Sand & Gravel Co. P.O. Box 399 Chesapeake, OH 45619 614-894-5978 Vernon E. Collier, owner	Burlington Sand & Gravel Co. (170)	Lawrence	sand & gravel	7,904	7,904	Le-426	IM-856
Burrgett Industries, Inc. P.O. Box 651 Newcomerstown, OH 43832 614-498-8561 Thomas J. Miller, pres.	Burrgett Industries, Inc. (532)	Tuscarawas	sand & gravel	15		Ts-2029	IM-1129
C & S Contractors, Inc. P.O. Box 42459 Cincinnati, OH 45242 513-791-7747 Raymond A. Conn, pres.	C & S Contractors, Inc. (356)	Warren	sand & gravel	15		Wan-47	IM-846
C. Carmical Sand & Gravel 7325 Thompson Rd. Cincinnati, OH 45247 513-385-8637 C. Carmical, pres.	C. Carmical Sand & Gravel (520)	Hamilton	sand & gravel	15		Hmn-C ¹⁴	IM-1132
	Canton Aggregate (318) Canton Aggregate (319)	Stark Stark	sand & gravel sand & gravel	425,667 147,403	425,667 147,403	Sk-681 Sk-689	IM-164 IM-173
Division of Resco Products, Inc. P.O. Box 295	Gallia Red Sand (507) Shumate/Alban (21) Cedarloo/Jenkins/Greer (22) Katie Walke (91)	Gallia Jackson Jackson Jackson	sand & gravel clay clay clay	518 15 45,810 15	518 45,810	Ga-507 Jkn-1001 Jkn-1007 Jkn-CH ¹⁴	IM-1074 IM-19 IM-24 IM-1060
Celotex Corp. P.O. Box 280 Port Clinton, OH 43452 419-734-3153 W. D. Herbert, pres.	American #2 (1)	Ottawa	gypsum	199,857	199,857	Oa-2	IM-344

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Central Ohio Coal Co. P.O. Box 98 Cumberland, OH 43732 614-962-2013 J. E. Katlic, exec. v. pres.	Horse Run Stone Quarry (73) Central Ohio Coal Co. (165) Coal Hill (166)	Morgan Morgan Muskingum	limestone limestone limestone	16 16 170,207	170,207	Mon-600 Mon-C ¹⁷ Ne-C ¹⁷	IM-281 IM-1010 D-0820
Central Silica Co. 806 Market St. P.O. Box 4477 Zanesville, OH 43702-4477 614-452-2775 James P. Snider, v. pres. & gen. mgr.	Millwood Sand Division (24) Glass Rock (48)	Knox Perry	sandstone sandstone	122,690 243,464	122,690 243,464	Kx-1 Py-344	IM-269 IM-1014
Charlestown Sand & Gravel, Inc. 7845 State Rte. 5 Ravenna, OH 44266 216-474-8534 Yale Stuble, pres.	Charlestown Sand & Gravel, Inc. (259)	Portage	sand & gravel	25,495	25,495	Pe-17	IM-123
Chattin Concrete 9978 State Rte. 220 P.O. Box 49 Waverly, OH 45690 614-947-4677 Jeffery Chattin, owner	Chattin Concrete (253)	Pike	sand & gravel	16		Pke-23	IM-242
Chesterhill Stone Co. 773 East State Rte. 60 NE P.O. Box 599 McConnelsville, OH 43756 614-962-5621 Fred R. Price, pres.	Plant #2 (240) Chesterhill Stone Co. (478) Plant #1 (75)	Morgan Morgan Muskingum	sand & gravel sand & gravel limestone	39,185 222,332 506,493	42,680 226,366 535,299	Mon-588 Mon-CS ¹⁷ Mum-106	IM-35 IM-1105 IM-297
Chesterville Sand & Gravel Co., Inc. State Rte. 95 E P.O. Box 51 Chesterville, OH 43317 419-768-3369 Carrol D. Gleason, pres.	Chesterville Sand & Gravel Co., Inc. (242)	Morrow	sand & gravel	121,016	121,016	Mw-10	IM-258
Chillicothe Sand & Gravel Co. 1177 Hopetown Rd. Chillicothe, OH 45601 614-775-3751 Don E. Mill, pres.	Chillicothe Sand & Gravel Co. (490)	Ross	sand & gravel	166,224	191,848	Rs-27	IM-1098
Christman Quarry 47278 Swazey Rd. Lewisville, OH 43754 614-838-2475 Gerald L. Christman, owner	Christman Quarry (69) Christman Quarry (163)	Monroe Monroe	limestone limestone	20,000 59,170	20,000 59,170	Me-501 Me-C ¹⁷	IM-76 IM-1088
Clark Clay Co. 6918 Township Rd. 310 Millersburg, OH 44654 216-674-5150 Dwight S. Clark, owner	Clark Clay Co. (17)	Holmes	clay	3,096	1,819	Hs-56	
Claycraft Co. P.O. Box 866 Columbus, OH 43216 614-866-3300 P. W. Tefft, pres.	Claycraft Plant #1 Clay Pit (73)	Wyandot	clay	8,775	8,775	Wt-7	IM-407
Cleveland Quarries Co. P.O. Box 261 Amherst, OH 44001-0261 216-986-4501 D. L. Mitchell, pres.	Birmingham Quarry (14) Amherst Quarries (27)	Erie Lorain	sandstone sandstone	2,250 23,512	2,250 23,512	Ee-21 Ln-3	IM-416 IM-415
Cochran Transportation Services, Inc. P.O. Box 578 Athens, OH 45701 614-593-3906 Charles W. Cochran, pres.	Cochran Transportation Services, Inc. (458) (87)	Athens	sand & gravel clay	10,456	10,456	As-595	IM-1083

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Con-Ag, Inc. 16672 County Rd. 66A N St. Marys, OH 45885 419-394-8870 Robert E. Hirschfeld, pres.	Con-Ag, Inc. (10)	Auglaize	limestone	288,624	279,860	Ae-31	IM-744
Connolly Construction Co., Inc. 825 W. Sixth St. P.O. Box 271 Marysville, OH 43040 513-644-8831 Phillip Connolly, pres.	East Liberty Quarry (49)	Logan	limestone	24,604	24,604	Lgn-1 ¹⁸	IM-574
Conotton Valley Quarries Co. P.O. Box 207 Sherrodsville, OH 44675 614-269-3481 Nick J. Puskarich, pres.	Conotton Valley Quarries Co. (1)	Carroll	sandstone	19		Cl-102	IM-278
Cooper Sand & Gravel P.O. Box 427 Russells Point, OH 43348 513-843-3426 Lou Leona Cooper, executrix	Cooper Sand & Gravel (411)	Logan	sand & gravel	6,070	6,070	Lgn-40	IM-996
Coprolite Sand & Gravel Corp. Route 3, Box 350 Marietta, OH 45750 614-373-5763 Thomas G. Love, pres.	Devola Plant #2 (371)	Washington	sand & gravel	10,276	13,000	Wn-44 ²⁰	IM-63
Crates Excavating 14628 State Rte. 31 Kenton, OH 43326 419-675-1558 John Roger & Ruth Crates, owners	Crates #1 (406) Crates #2 (469)	Hardin Hardin	sand & gravel sand & gravel	19 1,2 66	1,266	Hdn-5 Hdn-C ²¹	IM-907 IM-1081
Cravat Coal Co. 40580 Cadiz-Piedmont Rd. Cadiz, OH 43907 614-942-4656 Anthony Puskarich, pres.	Dover Pit (13)	Belmont	limestone	1,336	1,336	Bt-119	IM-733
Cremeans Concrete & Supply Georges Creek Rd. P.O. Box 475 Gallipolis, OH 45631 614-446-1142 Frank A. Cremeans, pres.	Cremeans Concrete & Supply (440)	Gallia	sand & gravel	6,075	6,075	Ga-626	IM-1046
R. A. Cruise Sand & Gravel, Inc. 7639 State Rte. 14 Ravenna, OH 44266 216-296-4087 Larry R. Cruise, pres.	R. A. Cruise Sand & Gravel, Inc. (261)	Portage	sand & gravel	70,011	60,625	Pe-45	IM-139
Cummins Family Contracting 7703 Twp. Rd. 207 DeGraff, OH 43318 513-585-4032 Richard E. Cummins, owner	Cummins Family Contracting (190)	Logan	sand & gravel	19		Lgn-38	IM-881
Cunningham Asphalt Paving, Inc. P.O. Box 370 Wheelersburg, OH 45694 614-574-6184 Karl Cunningham, pres.	Cunningham Pit (304)	Scioto	sand & gravel	19		So-83	IM-211
D & D Sand Bank Rte. 7 Box 473 South Point, OH 45680 614-377-4765 Eileen Pemberton, owner	D & D Sand Bank (388)	Lawrence	sand & gravel	1,680	1,680	Le-445	IM-928

 ¹⁸This mine was operated January through April 1991 by Connolly Construction Co., Inc., and May through December by American Aggregates Corp.
 ¹⁹No sales or production.
 ²⁰This mine was operated 1st through 3rd quarter 1991 by Union Slag Corp., and 4th quarter by Coprolite Sand & Gravel Corp.
 ²¹No mine number has been assigned by the Division of Mines.

D & W Sand & Gravel (49)	Champaign	sand & gravel	6,353	6,353	C 01	Y3.5.04.0
			0,000	0,355	Cpn-21	IM-616
Darby Gravel (479)	Pickaway	sand & gravel	6,360	6,360	Pky-7	IM-1067
Plum Run Stone Division (1) Highland Stone Division (41)	Adams Highland	limestone limestone	1,604,957 681,669	1,486,694 684,783	Ads-1 Hd-2	IM-237 IM-230
Kieffer Pit (385) Demmy Construction, Inc. (462)	Clark Clark	sand & gravel sand & gravel	42,007	42,007	Ck-501 Ck-D ²³	IM-340 IM-1038
Demmy Sand & Gravel (54)	Clark	sand & gravel	7,215	7,215	Ck-502	IM-375
Corder Mine (74)	Muskingum	clay	1,456	1,456	Mum-DC23	IM-917 IM-115
(124) Dennis Clay Co. (108)	Perry	shale clay shale	1,320 6,913 5,287	1,320 6,913 5,287	Py-338	IM-1092
Neidert Pit (320)	Stark	sand & gravel	9,844	9,844	Sk-694	IM-858
Dingledine Basic Materials, Inc. (32)	Butler	sand & gravel	58,509	58,509	Br-50	IM-739
Dome Minerals, Inc. (79)	Columbiana	shale	4,260	4,260	Ca-947	IM-935
Don's Dozer Service (529)	Portage	sand & gravel	1,583	1,583	Pe-96	IM-792
Fairfield Plant (33) Ross Plant (34) Cleves Plant (126) Camp Dennison Plant (127) Newtown Plant (128) Cleves Plant (131) Newtown Plant (128) Dravo Basic Materials Co., Inc. (468) Apple Grove Plant (209) South Lebanon Plant (352)	Butler Butler Hamilton Hamilton Hamilton Hamilton Hamilton Meigs Warren	sand & gravel sand & gravel	22 356,449 22 874,906 939,843 22 22,24 24 22,20,057 22	352,050 1,023,527 1,293,618 721,360	Br-14 Br-29 Hmn-3 Hmn-5 Hmn-11 Hmn-68 Hmn-70 Hmn-D ²³ Ms-205 Wan-41 ²⁵	IM-147 IM-149 IM-137, IM-82 IM-148 IM-133 IM-747 IM-133 IM-1079 IM-30 IM-629
	Plum Run Stone Division (1) Highland Stone Division (41) Kieffer Pit (385) Demmy Construction, Inc. (462) Demmy Sand & Gravel (54) Corder Mine (74) Ohio Power (124)	Plum Run Stone Division (1) Highland Stone Division (41) Kieffer Pit (385) Demmy Construction, Inc. (462) Clark Corder Mine (74) Ohio Power (124) (124) Dennis Clay Co. (108) Neidert Pit (320) Stark Dingledine Basic Materials, Inc. (32) Butler Dome Minerals, Inc. (79) Columbiana Don's Dozer Service (529) Portage Fairfield Plant (33) Ross Plant (34) Cleves Plant (126) Camp Dennison Plant (127) Newtown Plant (128) Clark Muskingum Muskingum Muskingum Perry Stark Butler Butler Hamilton	Plum Run Stone Division (1) Highland Stone Division (41) Kieffer Pit (385) Demmy Construction, Inc. (462) Demmy Sand & Gravel (54) Clark Clark Clark sand & gravel sand & gravel Clay Clark Clark Clark Clark Clark Sand & gravel Sand & gravel Sand & gravel Sand & gravel Demmy Sand & Gravel (54) Clark Clay Clay Clay Clay Clay Clay Clay Cla	Plum Run Stone Division (1) Highland Stone Division (41) Kieffer Pit (385) Demmy Construction, Inc. (462) Clark Clark Sand & gravel Adams Highland Kieffer Pit (385) Demmy Construction, Inc. (462) Clark Clark Sand & gravel 42,007 22 Clark Clark Sand & gravel 7,215 Corder Mine (74) Ohio Power (124) Ohio Power (124) Dennis Clay Co. (108) Perry Clay Clay Clay Clay Clay Clay Clay Cl	Plum Run Stone Division (1) Highland Stone Division (1) Hamilton Stand & Gravel Stand & Gr	Plum Run Stone Division (1) Highland Division (1)

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit numbe
Fred J. Dreslinski 5870 State Rte. 193 Kingsville, OH 44048 216-224-0195 Fred J. Dreslinski, pres.	Fred J. Dreslinski (457)	Ashtabula	sand & gravel	26		Asa-13	
Dry Creek Gravel Co. 2097 Mt. Vernon Rd. Newark, OH 43055 614-366-3333 Gail Wolfe, pres.	Plant #2 (176) Plant #3 (177)	Licking Licking	sand & gravel sand & gravel	336,600 323,800	336,600 323,800	Lg-31 Lg-DC ²⁷	IM-246 IM-354
C. E. Duff & Son, Inc. 9042 State Rte. 117 P.O. Box 295 Huntsville, OH 43324 513-686-2488 James E. Duff, pres.	Portable (444) C. E. Duff & Son, Inc. (50) Duff Sand Co. (182) C. E. Duff & Son, Inc. (420) C. E. Duff & Son, Inc. (183)	Logan Logan Logan Logan Logan	sand & gravel limestone sand & gravel sand & gravel sand & gravel	199,025 83,168 9,032	199,025 83,168 9,032	Lgn-12 Lgn-15 Lgn-31 Lgn-36 Lgn-39	IM-1071 IM-453 IM-454 IM-1007 IM-887
E.M.A.I. Corp. dba ESSROC Materials, Inc. P.O. Box 5250 Poland, OH 44514 216-536-6275 Philippe Milliet, CEO	ESSROC Materials, Inc. (160) Bessemer Pit (57) (34) Carbon Pit (162) (107) (107)	Lucas Mahoning Mahoning	limestone limestone shale limestone clay shale	1,134,314 89,258 439,273 26 14,996	1,367,771 187,079 434,604 14,996	Ls-12 Mg-608 Mg-EM ²⁷	IM-953 IM-4 IM-1056
East Fairfield Coal Co. 10900 South Ave. P.O. Box 217 North Lima, OH 44452 216-549-2165 R. E. Mackall, pres.	East Fairfield Coal Co. (171) (53) (118)	Mahoning	limestone sandstone clay	26 26	26	Mg-E ²⁷	IM-1103
East Ohio Limestone Co. P.O. Box 699 Hartville, OH 44632 216-877-2636 Donald D. Phillips, pres.	East Ohio Limestone Co. (113)	Stark	limestone	33,840	29,390	Sk-663	IM-5
Eaton Sand & Gravel Co. 11641 Mosteller Rd. Cincinnati, OH 45241 606-0331-2303 Charles Bucklew, pres.	Eaton Sand & Gravel Co. (132)	Hamilton	sand & gravel	1,500	1,500	Hmn-46	IM-396
R. A. Eberts Co., Inc. P.O. Box 191 Jackson, OH 45640 614-682-3506 Phil A. Bowman, pres.	Diamond Stone (9)	Athens	limestone	384,417	415,312	As-533	IM-17
Elm Spring Farm 938 State Rte. 207 Chillicothe, OH 45601 614-775-5525 Joanna J. Haskins, owner	Elm Spring Farm (297)	Ross	sand & gravel	5,544	5,544	Rs-26	IM-922
Envirosafe Services of Ohio, Inc. 876 Otter Creek Rd. Oregon, OH 43616 419-255-5100 James E. Hamilton, pres.	Envirosafe Services of Ohio, Inc. (95)	Lucas	clay	13,345	13,345	Ls-E ²⁷	IM-1075
Erie Blacktop, Inc. 4507 Tiffin Ave. P.O. Box 2308 Sandusky, OH 44870 419-625-7374 Dean Wikel, pres.	Erie Blacktop Quarry (24) Erie Blacktop Sand & Gravel Pit (417)	Erie Huron	limestone sand & gravel	125,148 5,194	289,023 4,168	Ee-27 Hrn-16	IM-608 IM-975
Erie Sand & Gravel Co. P.O. Box 153 Erie, PA 16512-0153 814-453-6721 Sidney E. Smith, Jr., pres.	Erie Sand & Gravel Co. (1)	Lake Erie	sand & gravel (dredged)	61,562	61,562	Ee-D ²⁷	

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Feikert Sand & Gravel, Inc. 6971 County Rd. 189 Millersburg, OH 44654-9186 216-674-0038 Lynn O. Feikert, pres.	Feikert Sand & Gravel, Inc. (154)	Holmes	sand & gravel	81,453	81,453	Hs-511	IM-345, IM-1048
Fenner Sand & Gravel, Inc. 7131 W. Fenner Rd. Ludlow Falls, OH 45339 513-698-7048 Robert P. Snead, pres.	Woodville Concrete Corp. (222)	Miami	sand & gravel	188,000	188,000	Mi-4	IM-472
Ferris Coal Co., Inc. 371 South St. East Palestine, OH 44413 216-426-9680 Theresa Ferris, pres.	Ferris Coal Co., Inc. (4) (4)	Columbiana	clay shale	28 28		Ca-505	IM-13
Fleckenstein Farm Gravel Pit 11251 State Rte. 66 Minster, OH 45865 513-295-2417 Ferd J. Fleckenstein, owner	Fleckenstein Farm Gravel Pit (310)	Shelby	sand & gravel	4,552	4,552	Shy-12	IM-528
Fleming Construction Co., Inc. P.O. Box 31 Marion, OH 43301-0031 614-726-2164 Gerald E. Fleming, pres.	Fleming Construction Co., Inc. (423)	Marion	sand & gravel	28		Mn-F ²⁹	IM-990
Flesher Sand & Gravel, Inc. 3322 Clark Mill Rd. Norton, OH 44203 216-745-9239 James E. Flesher, pres.	Flesher Sand & Gravel, Inc. (327)	Summit	sand & gravel	35,304	35,304	St-52	IM-900
Ford Development Corp. 11148 Woodward Lane Sharonville, OH 45241 513-772-1521 Robert J. Henderson, pres.	Ford Development Corp. (119)	Butler	clay	1,500	1,500	Br-F ²⁹	IM-1135
Foureman's Sand & Gravel, Inc. 2791 Wildcat Rd. Greenville, OH 45331 513-548-1718 Gary B. Foureman, pres.	Foureman's Sand & Gravel, Inc. (80)	Darke	sand & gravel	35,595	28,966	Dke-4	IM-433
The France Stone Co. 8130 Brint Rd. P.O. Box 278 Sylvania, OH 43560-0278 419-882-0123 Glenn E. Sherman, exec. v. pres.	Waterville (52) Sylvania (53) Paulding (86) Flat Rock (107) Bloomville (108) Custar (129)	Lucas Lucas Paulding Seneca Seneca Wood	limestone limestone limestone limestone limestone	519,985 754,531 286,522 1,231,303 399,920 225,076	442,194 767,502 309,690 1,505,086 384,843 243,845	Ls-1 Ls-3 Pg-7 Sa-1 Sa-3 Wd-5	IM-575 IM-580 IM-347 IM-349 IM-473
Frye Sand & Gravel, Inc. 3049 S. Denmark Rd. P.O. Box 3 Dorset, OH 44032 216-858-2627 Harold L. Frye, owner	Frye Sand & Gravel, Inc. (9)	Ashtabula	sand & gravel	160	160	Asa-10	IM-198
G & M Supply, Inc. dba Clinton Stone, Inc. 1203 N. Pennsylvania Ave. P.O. Box 468 Wellston, OH 45692 614-384-5659 Bonny A. Huffman, pres.	Sands Hill (124)	Vinton	limestone	117,433	117,433	Vn-174	D-0309
Ganges Gravel 153 North Gambel St. P.O. Box 42 Shelby, OH 44875 419-342-5361 J. J. Scott, owner	Ganges Gravel (289)	Richland	sand & gravel	3,659	3,659	Rd-18	IM-670

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
John L. Garber Materials, Inc. Rte. 8 Lexington, OH 44904 419-884-1567 John L. Garber, pres.	John L. Garber Materials, Inc. (290)	Richland	sand & gravel	209,544	222,606	Rd-14	IM-436
General Clay Products Corp. P.O. Box 236 Baltic, OH 43804-0236 216-897-7171 Harold B. Epler, Jr., pres.	Drescher Pit (6) (6) Troyer Pit (18)	Coshocton Holmes	clay shale shale	2,429 20,280 4,230	0 10,614 4,230	Cn-787 Hs-77	IM-610 IM-545
General Clay Products Corp. P.O. Box 550 Logan, OH 43138	General Clay Products Corp. (12) (12) General Clay Products Corp. (110)	Hocking Hocking	clay shale shale	28,604 13,654	28,604 13,654	Hg-205	IM-21 IM-1013
614-385-5616 Harold B. Epler, Jr., pres.	General Clay Froducts Corp. (110)	Hocking	snaie	30		ng-G	1141-1013
General Clay Products Corp. P.O. Box 340 Wadsworth, OH 44281 216-335-1515 Harold B. Epler, Jr., pres.	General Clay Products Corp. (37)	Medina	shale	38,707	38,707	Ma-6	IM-455
GenLime Group, L.P. P.O. Box 158 Genoa, OH 43430 419-855-8336 Paul F. Gnepper, dir. admin.	GenLime Group, L.P. (85)	Ottawa	limestone	606,647	301,588	Oa-1	IM-292
Gerken Materials, Inc. P.O. Box 607 Napoleon, OH 43545 419-533-2421 Julian A. Gerken, pres.	Gerken Materials, Inc. (147)	Henry	sand & gravel	182,190	182,190	Ну-5	
Gibson Sand & Gravel Co. 1385 Knorr Rd. Galion, OH 44833 419-468-5527 Arthur T. Gibson, owner	Gibson Sand & Gravel Co. (75)	Crawford	sand & gravel	832	832	Cd-3	IM-693
Glen-Gery Corp. P.O. Box 207 Iberia, OH 43325 419-468-5002 Evan Davis, mgr.	Glen-Gery Corp. (36)	Marion	shale	153,110	153,110	Mn-7	IM-309
David B. Good 10442 W. Easton Rd. West Salem, OH 44287 419-846-3912 David B. Good, owner	David B. Good (508)	Ashland	sand & gravel	900	900	Ald-G ³¹	IM-1121
Goodwin Sand & Gravel, Inc. 126 S. Norton St. Mt. Vernon, OH 43050 614-392-7971 Don E. Mill, pres.	Goodwin Sand & Gravel, Inc. (160)	Knox	sand & gravel	96,150	77,500	Kx-7	IM-235
Gottron Bros. Co. 100 South Stone St. Fremont, OH 43420 419-332-5281 Harry P. Gottron, Jr., v. pres.	Gottron Bros. Co. (101)	Sandusky	limestone	62,116	57,644	Sy-5	IM-259
The Gravel Co. 325 Clark Rd. P.O. Box 15501 Cincinnati, OH 45215 513-761-4980 Roy B. Schweitzer, pres.	Cleves (141)	Hamilton	sand & gravel	30		Hmn-28	IM-353
The Gravel Co. 151 Seven Mile Ave. New Miami, OH 45011 513-761-4980 Roy B. Schweitzer, pres.	New Miami Pit (42)	Butler	sand & gravel	83,346	83,346	Br-3	IM-719

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Green Basin Coal, Inc. Rte. 1 Box 49C Strasburg, OH 44680 216-343-5231 Tim Williams, pres.	Green Basin Coal, Inc. (169) (103)	Tuscarawas	limestone clay	27,634 17,161	27,634 17,161	Ts-2024	IM-1087
Green Oaks Potting Products 2222 Lake Rockwell Rd. P.O. Box 979 Ravenna, OH 44266 216-296-2157 John A. Lyon, pres.	Green Oaks Potting Products (7) (451)	Portage	peat sand & gravel	2,632 7,113	6,051 7,500	Pe-89	IM-1142
Gregory Materials Co. 14133 U.S. Rte. 23 N Waverly, OH 45690 614-947-5559 Ernest Gregory, owner	Plant #1 (254)	Pike	sand & gravel	33,272	33,272	Pke-30	IM-786
Gregory Stone Co., Inc. 3244 S. Davis Rd. Ludlow Falls, OH 45339 513-275-7455 William T. Gregory, Jr., pres.	Gregory Quarry (65)	Miami	limestone	1,721	1,721	Mi-16	IM-414
H. T. Griffin Excavating, Inc. Route 5 Box 217 Swanton, OH 43558 419-826-0230 Henry T. Griffin, owner	H. T. Griffin Excavating, Inc. (472)	Lucas	sand & gravel	78,300	78,300	Ls-G ³²	IM-1090
Grimes Excavating Rte. 3 Box 121 New Matamores, OH 45767 614-865-2267 John Grimes, partner	Grimes Excavating (533)	Washington	sand & gravel	2,130	2,130	Wn-1008	IM-1111
Gwin Contracting Co. P.O. Box 205 Columbiana, OH 44408 216-482-2442 Lyle D. Gwin, pres.	Gwin Contracting Co. (30)	Mahoning	sandstone	25,211	25,211	Mg-62	IM-599
H & H Utilities Co. 7307 S. Kessler-Frederick Rd. West Milton, OH 45383 513-223-6752 Gerald Hochwalt, pres.	H & H Gravel (229)	Montgomery	sand & gravel	8,474	8,474	My-68	IM-646
J. M. Hamilton & Sons Co., Inc. 1974 Marion-Bucyrus Rd. Marion, OH 43302 614-382-2189 O. E. Hamilton, pres.	J. M. Hamilton & Sons Co., Inc. (59)	Marion	limestone	111,738	111,738	Mn-2	IM-423
Hard Rocks, Inc. 9340 State Rte. 5 NE Kinsman, OH 44428 216-876-1565 Daniel White, pres.	Hard Rocks, Inc. (40)	Trumbull	sandstone	11,509	27,600	Tl-13	IM-777
Hardin Quarry Co., Inc. 12484 State Rte. 701 Kenton, OH 43326 419-675-1327 Richard Pees, pres.	Hardin Quarry Co., Inc. (38)	Hardin	limestone	184,484	184,484	Hdn-2	IM-443
Harrison Sand & Gravel Co. 10980 Campbell Rd. Harrison, OH 45030 513-637-5174 Donald Gauck, v. pres.	Harrison Sand & Gravel Co. (135)	Hamilton	sand & gravel	65,507	57,887	Hmn-17	IM-295
Haubeil & Sons Asphalt & Materials, Inc. 379 Seney Rd. Chillicothe, OH 45601 614-773-6358 Robert & George Haubeil, co-owners	Haubeil & Sons Asphalt & Materials, Inc. (491)	Ross ·	sand & gravel	33,885	33,885	Rs-H ³²	IM-1052

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Haueter Sand & Gravel, Inc. P.O. Box 206 Chardon, OH 44024 216-286-9482 Donald H. Haueter, pres.	Haueter Sand & Gravel, Inc. (108)	Geauga	sand & gravel	233,131	233,131	Gea-29	IM-215
Heiser Sand & Gravel P.O. Box 2491 North Canton, OH 44720 216-499-8201 Richard L. Heiser, owner	Heiser Sand & Gravel (323)	Stark	sand & gravel	30,570	10,023	Sk-688	IM-763
Paul N. Herdman P.O. Box 36 Lebanon, OH 45036 513-233-5555 Paul N. Herdman, pres.	Paul N. Herdman (429)	Warren	sand & gravel	8,244	8,244	Wan-46	IM-679
Hillcrest Coal, Ltd. 190 S. Main St. Magnolia, OH 44643 216-866-9388 Kermit & Richard James, Jr., partners	Hillcrest Coal, Ltd. (102)	Stark	clay	33		Sk-HC ³⁴	IM-1037
Hillsdale Sand & Gravel, Inc. P.O. Box 223 Archbold, OH 43502 419-445-1015 Dean Miller, pres.	Hillsdale Sand & Gravel, Inc. (82)	Defiance	sand & gravel	20,909	0	De-2	IM-765
Hilltop Aggregate, Inc. P.O. Box 362 Mogadore, OH 44260 216-644-3274 Robert W. West, pres.	Hilltop Aggregate, Inc. (262)	Portage	sand & gravel	380,674	380,674	Pe-56	IM-127
Hilltop Basic Resources, Inc. 630 Vine St. Cincinnati, OH 45202 513-878-8631 John Steele, Jr., pres.	Fairborn Aggregate Plant (112) West Carrollton Aggregate Plant (232)	Clark, Greene Montgomery	sand & gravel sand & gravel	367,922 489,943	305,854 496,919	Ge-4 My-19	IM-394 IM-401
Hilltop Basic Resources, Inc. dba Enon Washed Sand & Gravel Co. 1665 Enon-Donnelsville Rd. P.O. Box 363 Enon, OH 45323 513-878-8631 John Steele, Jr., pres.	Enon Washed Sand & Gravel Co. (57)	Clark	sand & gravel	219,785	255,581	Ck-3	IM-463
Hocking County Engineer 1286 California Ave. Logan, OH 43138-8999 614-385-8543 Douglas A. Neff, admin. asst.	Hocking County Gravel Pit (150)	Hocking	sand & gravel	33		Hg-296	IM-559
Hocking Valley Concrete, Inc. 35255 Hocking Dr. Logan, OH 43138 614-385-2165 William G. Vaughn, pres.	Hocking Valley Concrete, Inc. (151)	Hocking	sand & gravel	74,000	72,730	Hg-262	IM-41
William A. Hoffman, Jr. 25043 State Rte. 104 Circleville, OH 43113 614-474-2002 William A. Hoffman, Jr., owner	Hoffman Pit (480)	Pickaway	sand & gravel	2,678	2,678	Pky-H ³⁴	IM-1039
Tom Hollinger Excavating 2097 Hollansburg-Arcanum Rd. New Madison, OH 45346 513-996-5381 Thomas W. Hollinger, leasee	Hollinger Gravel Plant (81)	Darke	sand & gravel	1,391	1,391	Dke-10	IM-326
Holloway Sand & Gravel Co., Inc. P.O. Box 416 West Union, OH 45693 513-544-5524 Dan Holloway, pres.	Holloway Sand & Gravel Co., Inc. (173)	Adams	limestone	33		Ads-H ³⁴	IM-805

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Holmes Limestone Co. P.O. Box 295 Berlin, OH 44610	241 Plant (44) (19) (19)	Holmes	limestone clay shale	111,312 12,590 2,244	111,312 12,590 2,244	Hs-67	IM-768
216-893-2721 Merle Mullet, pres.	Wayne Mines (45)	Holmes, Wayne	limestone	105,331	105,331	Hs-79 ³⁵	IM-656
	Holmes Limestone Co. (157) Bolivar Mine (76)	Holmes Stark	limestone clay	36 10,731	10,731	Hs-H ³⁷ Sk-235	IM-1104 IM-945
Honey Creek Stone Co. P.O. Box 286 Petersburg, OH 44454 216-542-2372 Leo Verzilli, plant foreman	Honey Creek Stone Co. (56)	Mahoning	limestone	171,708	283,621	Mg-54	IM-93
Huck Farms 1162 S. Riverside Dr. McConnelsville, OH 43756 614-962-3467 Louis & Cecil Huck, partners	Huck Farms (241)	Morgan	sand & gravel	36		Mon-599	
Hugo Sand Co. 7055 State Rte. 43 Kent, OH 44240 216-587-2700 Dorothy M. Strohm, pres.	Hugo Sand Co. (264)	Portage	sand & gravel	244,662	244,662	Pe-10	IM-138
Humphrey Farms P.O. Box 128 Reedsville, OH 45772-0128 614-378-6295 C. Ed Humphrey, owner	Vivian Humphrey (210)	Meigs	sand & gravel	185	185	Ms-295	
Hydraulic Press Brick Co. 8900 Hemlock Rd. P.O. Box 31330 Independence, OH 44131 314-621-9306 W. W. Allen, Jr., pres.	Hydraulic Press Brick Co. (7)	Cuyahoga	shale	192,104	195,207	Суа-19	IM-95
Indian Creek Sand & Gravel Co. P.O. Box 330 Oxford, OH 45056 513-523-8805 Gaston Bowling, pres.	Indian Creek Sand & Gravel Co. (37)	Butler	sand & gravel	15,719	15,719	Br-40	IM-493
J. & A. Excavating 4130 Flatfoot Rd. Cable, OH 43009 513-652-3504 John Holbrook, owner	J. & A. Excavating (513)	Champaign	sand & gravel	36		Cpn-J ³⁷	IM-1133
J. P. Sand & Gravel Co. 5911 Lockbourne Rd. P.O. Box 2 Lockbourne, OH 43137 614-497-0083 Richard A. Roberts, pres.	J. P. Sand & Gravel Co. (98)	Franklin	sand & gravel	389,332	389,332	Fn-52	IM-191
JTO, Inc. 9260 Progress Parkway Mentor, OH 44060 216-951-4355 Jerome T. Osborne, Jr., pres.	JTO, Inc. (525)	Lake	sand & gravel	36		Lke-J ³⁷	IM-1128
Janson Soil Service, Inc. 1492 Mechanicsville Rd. Rock Creek, OH 44084 216-466-3835 Peter E. Janson, Jr., pres.	Janson Soil Service, Inc. (10) (82) (82)	Ashtabula	sand & gravel clay shale	36 20 200	20 200	Asa-14	IM-563
Jarrett Sand Co. 6505 Skadden Rd. Sandusky, OH 44870 419-359-1750 James Jarrett, owner	Jarrett Sand Co. (84)	Erie	sand & gravel	4,508	4,508	Ee-29	

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Jefferson Materials Co. 8505 State Rte. 14 Streetsboro, OH 44241 216-626-3816 John E. Lower, pres.	Howitt (265)	Portage	sand & gravel	235,166	218,677	Pe-63	IM-82
Johnson Rd. Sand & Gravel P.O. Box 971 Kent, OH 44240 216-677-5737 Robert K. Heimann, pres.	Johnson Rd. Sand & Gravel (484)	Portage	sand & gravel	39,936	39,936	Pe-J ³⁸	IM-1099
Jones Sand & Gravel Co. 1516 Timken Rd. Wooster, OH 44691 216-264-1070 Gerald R. & James R. Jones, owners	Jones Sand & Gravel Co. (470)	Holmes	sand & gravel	14,000	14,000	Hs-J ³⁸	IM-1043
Joseph Sand & Gravel Rte. 6 Boundary Rd. Wapakoneta, OH 45895 419-568-3787 Mary J. Joseph, owner	Joseph Sand & Gravel (23)	Auglaize	sand & gravel	10,420	10,420	Ae-23	IM-508
Karg Sand & Gravel Co. 2088 Congress Lake Rd. Mogadore, OH 44260 216-673-1338 Thomas R. Karg, owner	Karg Sand & Gravel Co. (266)	Portage	sand & gravel	12,300	12,300	Pe-83	IM-179
Keener Sand & Clay Co. 330 Dering Ave. Columbus, OH 43207 614-444-1105 Carl F. Weiffenbach, pres.	Huron Plant (85)	Erie	sand & gravel	1,043	1,043	Ee-5	
Kelly Coal Co. P.O. Box 89 Elkton, OH 44415 216-424-9654 Glenn O. Kelly, pres.	Shell (463)	Columbiana	sand & gravel	1,449	0	Ca-K ³⁸	IM-1108
Kilbarger Construction, Inc. P.O. Box 946 Logan, OH 43138 614-385-6019 Edward Kilbarger, pres.	Kilbarger Construction, Inc. (523)	Hocking	sand & gravel	4,250	3,900	Hg-329	IM-1112
Kimble Clay & Limestone Co. Rte. 1 Box 386 Dover, OH 44622 216-343-1226 Floyd E. Kimble, owner	Kimble Clay & Limestone Co. (117) (41) (63) (63)	Tuscarawas	limestone sandstone clay shale	87,760 2,651 224,911 302,877	87,760 2,651 224,911 302,877	Ts-1818	IM-9
King Limestone, Inc.	King Limestone, Inc. (147)	Guernsey,	limestone	167,072	167,072	Gy-309	IM-1030
53681 Spencer Rd. Cumberland, OH 43732 614-638-3942 Duane King, pres.	King Limestone, Inc. (79)	Muskingum Noble	limestone	39		Ne-106	IM-85
Kinsman Sand & Gravel Co. P.O. Box B Kinsman, OH 44428 216-293-5400 Glenn B. Harnett, pres.	Kinsman Sand & Gravel Co. (11)	Ashtabula	sand & gravel	138,140	104,635	Asa-17	IM-886
Kipp's Gravel Co., Inc. 4987 State Rte. 222 Batavia, OH 45103 513-732-1024 Melvin M. Kipp, pres.	Kipp's Gravel Co., Inc. (61)	Clermont	sand & gravel	113,644	113,644	Ct-7	IM-432
Kirby's Sand & Gravel, Inc. 4876 County Hwy. 43 Upper Sandusky, OH 43351 419-927-2260 Noble A. Kirby, owner	Kirby's Sand & Gravel, Inc. (382)	Wyandot	sand & gravel	42,929	42,929	Wt-17	IM-604

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Kleese Development Associates, Inc. 45 North Rd. Niles, OH 44446 216-652-5991 Robert Kleese, pres.	Kleese Development Associates, Inc., (499)	Trumbull	sand & gravel	40		Tl-K ⁴¹	IM-1101
Kosmos Cement Co. 15301 Dixie Highway P.O. Box 72319 Louisville, KY 40272 502-935-7331 K. R. Blakely, controller	Bear Run (30)	Lawrence	shale	40		Le-308	IM-31
Edward Kraemer & Sons, Inc. Bolander Rd. P.O. Box 55 Clay Center, OH 43408 419-855-8388 David R. Kraemer, pres.	White Rock Quarry (82)	Ottawa	limestone	877,449	859,298	Oa-6	IM-296
T & K Kuhnle Co. P.O. Box 375 Newbury, OH 44065 216-626-4400 Thomas Kuhnle, pres.	T & K Kuhnle Co. (518)	Geauga	sand & gravel	115,762	115,762	Gea-TK ⁴¹	IM-902
L & I Natural Resources, Inc. 1842 Adams Rd. Loveland, OH 45140 513-683-2045 Alvin Walker, pres.	L & I Natural Resources, Inc. (357) L & I Natural Resources, Inc. (430)	Warren Warren	sand & gravel sand & gravel	7,609 122,388	5,746 122,388	Wan-8 Wan-50	IM-240 IM-1006
L. & M. Excavators, Inc. 6075 Cleveland Ave. #205 Columbus, OH 43231 614-895-1056 Charles L. Lewis, pres.	Westerville Industrial Park (99)	Franklin	sand & gravel	6,640	6,640	Fn-54	IM-847
L & M Mineral Co. Star Rte. P.O. Box 54 Millersburg, OH 44654 216-893-2227 John E. Ling, Jr., pres.	Evans (64) Luikert (65) Holmes (66) Spring (170) (55) (77) (77)	Tuscarawas Tuscarawas Tuscarawas Tuscarawas	shale clay shale limestone sandstone clay shale	35,924 550 7,625 1,631 4,661 22,525 1,482	35,924 550 7,625 1,631 4,661 22,525 1,482	Ts-1884 Ts-1914 Ts-1981 Ts-1982	IM-6 D-0701 IM-741 IM-621
Lafarge Corp. Great Lakes Region P.O. Box 160 Paulding, OH 45879 419-399-4861 Robert W. Murdoch, pres.	Paulding Quarry (87) (42)	Paulding	limestone clay	683,066 206,850	683,066 206,850	Pg-1	IM-513
Lake Hope Asphalt, Inc. P.O. Box 38 Nelsonville, OH 45764 614-753-1005 Francis Efaw, pres.	Lake Hope Asphalt, Inc. (21)	Athens	sand & gravel	41,787	40,772	As-1161	IM-97
Lakeland Construction 65105 Old Rte. 800 Barnesville, OH 43713 614-425-1816 Tim Hall, mgr.	Lakeland Construction (151)	Belmont	limestone	2,047	2,047	Bt-L ⁴¹	IM-1093
Lakeside Sand & Gravel Co. 3431 Frost Rd. Mantua, OH 44255-9444 216-274-2569 Larry Kotkowski, partner	Lakeside Sand & Gravel Co. (268)	Portage	sand & gravel	248,440	222,295	Pe-40	IM-190
Craig E. Lammert P.O. Box 133 Darlington, PA 16115 412-827-2692 Craig E. Lammert, owner	Craig E. Lammert (514)	Columbiana	sand & gravel	55	1,500	Ca-L ⁴¹	IM-1126

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Lancaster Sand & Gravel Co. 3232 Logan-Lancaster Rd. SE Lancaster, OH 43130 614-687-4420 Jerry Mock, foreman	Lancaster Sand & Gravel Co. (92)	Fairfield	sand & gravel	399,084	399,084	Fd-13	IM-848
Larkin Sewer Contractors, Inc. Rte. 3, Box 3932 New Philadelphia, OH 44663 216-339-1289 Thomas E. Larkin, pres.	Larkin Sewer Contractors, Inc. (531)	Tuscarawas	sand & gravel	4,589	5,300	Ts-L ⁴²	IM-1125
Latham Limestone, Inc. P.O. Box 77 Latham, OH 45646 614-493-2677 Robert Murray, pres.	Latham Limestone, Inc. (91)	Pike	limestone	271,433	311,500	Pke-13	IM-213
Lazy Acre Farms, Inc. 1030 Forest Ave. Zanesville, OH 43701 614-453-1003 Clarence M. Parsons, owner	Lazy Acre Farms, Inc. (396)	Muskingum	sand & gravel	33,040	33,040	Mum-261	IM-957
Bertha A. Leonard 6539 River Rd. Harrison, OH 45030 513-738-4194 Bertha A. Leonard, owner	Bertha A. Leonard (137)	Hamilton	sand & gravel	250	250	Hmn-67	IM-529
Lerkis Asphalt Co., Inc. & Subsidiary 550 Dan St. Akron, OH 44310 216-376-7560 Gus J. Lerakis, pres.	Minor Rd. Plant (328) Lerkis Sand & Gravel Co. (498)	Summit Summit	sand & gravel sand & gravel	43 100	100	St-39 St-L ⁴²	IM-983 IM-1027
Carroll Lifer Excavating, Inc. P.O. Box 308 Bellville, OH 44813 419-886-2540 Carroll D. Lifer, pres.	Carroll Lifer Excavating, Inc. (489)	Richland	sand & gravel	2,445	2,445	Rd-L ⁴²	IM-1086
Lingvai Peat Co. R.R. 2 01693 Rd. 8 Edgerton, OH 43517 419-298-2058 Ronald Lingvai, mgr.	Lingvai Peat Co. (4)	Williams	peat	85	0	Ws-17	
London Tile Co. 65 Walnut St. New London, OH 44851 419-929-1551 R. N. Danison, pres.	Biglow (1)	Ashland	shale	1,172	1,172	Ald-1	IM-334
Loxley Aggregates, Inc. 4277 Falls Rd. Lewisburg, OH 45338 513-839-4874 Matthew L. Loxley, pres.	Loxley Aggregates, Inc. (488) (101)	Preble	sand & gravel clay	440		Pre-9	IM-1095
Luburgh, Inc. 4090 East Pike Zanesville, OH 43701 614-453-9003 Otto Luburgh, owner	Luburgh, Inc. Sand Pit (410)	Muskingum	sand & gravel	250	250	Mum-267	IM-914
Ludowici-Celadon Co. P.O. Box 69 New Lexington, OH 43764 614-342-1995 Edward Ryser, pres.	Donnelly Pit (46)	Perry	shale	43		Py-212	IM-58
M. & G. Supply Co. 7522 Wales Rd. North Canton, OH 44720 216-499-8473 Gary R. Ross, pres.	Chapel Hill Sand & Gravel (497)	Summit	sand & gravel	57,101	57,101	St-56	IM-1073

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
M & M Builders Supply Co. 5820 Carbon Hill Rd. East Palestine, OH 44413 216-426-9958 Hugh Madden, owner	M & M Builders Supply Co. (47) (106) (106)	Columbiana	sandstone clay shale	44 44 44		Ca-970	IM-1024
MacRitchie Materials, Inc. P.O. Box 90 West Millgrove, OH 43467 419-288-2790 Donald B. MacRitchie, pres.	MacRitchie Materials, Inc. (130)	Wood	limestone	121,752	121,752	Wd-1	IM-548
Maple Grove Stone Co. dba M & B Asphalt Co. P.O. Box 456 Tiffin, OH 44883 419-992-4235 Tim Bell, pres.	Maple Grove Stone Co.(106)	Seneca	limestone	160,465	160,465	Sa-2	IM-352
Marshall Quarry, Inc. 11199 State Rte. 124 Hillsboro, OH 45133 513-466-2636 Ronald M. Main, pres.	Marshall Quarry, Inc. (43)	Highland	limestone	5,261	5,261	Hd-4	IM-406
Donald Martin Contracting 1875 Roxanna-New Burlington Rd. Waynesville, OH 45068 513-862-4182 Roger J. Martin, owner	Donald Martin Contracting (403)	Greene	sand & gravel	296	296	Ge-40	IM-923
Martin Marietta Magnesia Specialties, Inc. Executive Plaza II Hunt Valley, MD 21030 301-527-3915 W. W. Appel, pres.	Woodville Quarry (102)	Sandusky	limestone	2,007,230	2,007,230	Sy-1	IM-537
Mason's Sand & Gravel Co. 2385 Rathmell Rd. Columbus, OH 43207 614-491-3611 Gordon Masteller, pres.	Mason's Sand & Gravel Co. (100)	Franklin	sand & gravel	68,818	68,818	Fn-11	IM-234
Massillon Materials, Inc. 26 N. Cochran St. P.O. Box 499 Dalton, OH 44618 216-828-8420 Howard J. Wenger, pres.	Massillon Materials, Inc. (495)	Stark	sand & gravel	76,718	76,718	Sk-M ⁴⁵	IM-1031
Massillon Washed Gravel Co. 6331 Blough Ave. SW P.O. Box 167 Navarre, OH 44662 216-879-2132 Thomas E. Thomas, pres.	Massillon Washed Gravel Co. (325)	Stark	sand & gravel	290,623	245,378	Sk-607	IM-102
Maumee Haulers & Excavating, Inc. P.O. Box 107 Monclova, OH 43542 419-866-0400 Ike Parker, Jr., pres.	Eber Rd. Pit (422)	Lucas	sand & gravel	62,741	62,741	Ls-26	IM-1016
Maxville Quarries, Inc. 7957 State Rte. 668 S Logan, OH 43138 614-385-7087 David J. McCort, pres.	Maxville Quarries, Inc. (89) Maxville Quarries, Inc. (168)	Perry Perry	limestone limestone	138,434 47,331	138,689 43,911	Py-235 Py-343	IM-11, IM-515 IM-1061
McCarthy Stone Quarry 6326 County Rd. 61 Upper Sandusky, OH 43351 419-294-2611 Charles H. McCarthy, owner	McCarthy Stone Quarry (133)	Wyandot	limestone	122,689	122,689	Wt-3	IM-298

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit numbe
Mecco, Inc. 2504 S. Main St. Middletown, OH 45042 513-422-3651 David T. Morgan, pres.	Mecco, Inc. (39)	Butler	sand & gravel	178,328	178,328	Br-15	IM-316
Mechanicsburg Sand & Gravel, Inc. P.O. Box 18 Mechanicsburg, OH 43044 513-834-2606 John D. Cushman, pres.	Mechanicsburg Sand & Gravel, Inc. (50)	Champaign	sand & gravel	126,310	111,293	Cpn-22	IM-889
Meigs County Commissioners Rte. 2 Rocksprings Rd. Pomeroy, OH 45769 614-992-2911 David H. Spencer, office mgr.	Meigs County Pit (211)	Meigs	sand & gravel	12,600	12,600	Ms-301	IM-619
Melvin Stone Co. 228 Melvin Rd. Wilmington, OH 45177 513-584-2486 Craig Beam, pres.	Melvin Stone Co. (17) Melvin Stone Co. (28) Melvin Stone Co. (92)	Clinton Fayette Pickaway	limestone limestone limestone	783,154 137,284 218,543	783,154 137,284 218,543	Cln-1 Fe-1 Pky-4	IM-241 IM-831 IM-209
Menuez Bros. Sand & Gravel, Inc. 5366 County Rd. 349 Rtc. 1 Millersburg, OH 44654 216-674-4254 Gene Menuez, pres.	Fair Pit (153)	Holmes	sand & gravel	164,617	164,617	Hs-82	IM-707
Mesenburg Bros., Inc. R.D. 1 Collins, OH 44826 419-668-5691 Peter J. Mesenburg, pres.	Mesenburg Bros., Inc. (86) Mesenburg Bros., Inc. (20)	Erie Huron	sand & gravel sandstone	16,117 11,994	16,117 11,994	Ee-24 Hrn-8	IM-915 IM-268
Miami River Stone Co. 1556 Miami River Rd. Sidney, OH 45365 513-492-5412 Bradley Comer, pres.	Miami River Stone Co. (110) Miami River Stone Co. (311)	Shelby Shelby	limestone sand & gravel	225,513	234,273	Shy-6 Shy-17	IM-389 IM-389
Mickley Gravel Co. P.O. Box J Danville, OH 43014 614-599-7870 Paul A. Mickley, owner	Mickley Gravel Co. (162)	Knox	sand & gravel	3,358	87	Kx-5	IM-884
Midwest Portland Cement Co. P.O. Box 1531 Zanesville, OH 43701 614-849-2311 John Gilliland, plant mgr.	Lyle Quarry (76) (112) Midwest Portland Cement Co. (39)	Muskingum Muskingum	limestone shale shale	522,437 12,891 46	522,437 12,891	Mum-24 Mum-C ⁴⁷	IM-830 IM-303
Miller Bros. Construction, Inc. Rte. 1 Box 30 Archbold, OH 43502 419-445-1015 Dale Miller, pres.	Miller Bros. Construction, Inc. (526)	Logan	sand & gravel	1,000	1,000	Lgn-M ⁴⁷	IM-799
Miller Bros. Gravel, Inc. 7900 S. Kessler-Frederick Rd. Tipp City, OH 45371 513-698-7204 Thomas O. Miller, pres.	Miller Bros. Gravel, Inc. (233)	Montgomery	sand & gravel	195,082	179,028	My-52	IM-348
H. M. Miller Construction Co. P.O. Box 131 Mogadore, OH 44260 216-628-4811 J. C. Smith, pres.	Krumroy Pit (330)	Summit	sand & gravel	666	666	St-46	IM-557
Miller Sand & Gravel Co. State Rte. 82 Box 60 Windham, OH 44288 216-326-3157 Donald M. Miller, owner	Miller Sand & Gravel Co. (272)	Portage	sand & gravel	3,525	3,525	Pe-39	IM-174

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Miller Sand Co. 5003 Bellevue-Castalia Rd. Castalia, OH 44824 419-684-7328 Todd C. Miller, owner	Miller Sand Co. (87)	Erie	sand & gravel	5,951	5,951	Ee-28	IM-601
Mitchell Transport, Inc. 35746 Lake Shore Blvd. Eastlake, OH 44094 216-942-9191 John P. Moyle, Jr., regional mgr.	North Park Ash Reclamation Center (92)	Lake	clay	41,744	41,744	Lke-M ⁴⁸	IM-1059
Mohican Organic Products, Inc. Rte. 1, 47 Milligan Rd. Lucas, OH 44843 419-892-2212 Farley & Joyce Amos, owners	Mohican Pit (1)	Ashland	peat	49		Ald-13	
Moore's Excavating Co. 2222 N. State Rte. 68 Urbana, OH 43078 513-653-6288 Ralph Moore, owner	Moore's Excavating Co. (51)	Champaign	sand & gravel	83,130	76,844	Cpn-20	IM-482
Morrow Gravel Co. 11641 Mosteller Rd. Cincinnati, OH 45241 513-771-0820 James P. Jurgensen, pres.	Morrow Gravel Co. (501) Morrow Gravel Co. (502) Morrow Gravel Co. (503)	Warren Warren Warren	sand & gravel sand & gravel sand & gravel	351,500 49 49	351,500	Wan-M ⁴⁸ Wan-M1 ⁴⁸ Wan-M2 ⁴⁸	IM-728, IM-1065 IM-1051 IM-837
Morton International, Inc. Morton Salt Division P.O. Box 428 Grand River, OH 44045-0428 216-354-9901 James R. Martin, plant mgr.	Fairport Mine (2)	Lake	salt	514,227	420,219	Lke-6	
Morton International, Inc. Morton Salt Division 151 S. Industrial St. P.O. Box 337 Rittman, OH 44270-0337 216-925-3015 Charles S. Locke, CEO	Morton Salt Well Field (5)	Wayne	salt	484,191	502,649	We-9129	
Muskingum River Gravel Co. P.O. Box 1585 Zanesville, OH 43702-1585 614-453-0624 Larry E. Young, v. pres.	Muskingum River Gravel Co. (152) Muskingum River Gravel Co. (247) Muskingum River Gravel Co. (448) Muskingum River Gravel Co. (452) Plant #2 (367)	Hocking Muskingum Muskingum Ross Washington	sand & gravel sand & gravel sand & gravel sand & gravel sand & gravel	85,000 100,000 49 200,000 12,750	85,000 100,000 200,000 12,750	Hg-301 Mum-228 Mum-262 Rs-M ⁴⁸ Wn-38	IM-458 IM-421 IM-422 IM-114 IM-701
National Aggregates, Inc. P.O. Box 146 Carrollton, OH 44615 216-863-1955 Bill Sheckler, pres.	National Aggregates, Inc. (512)	Carroll	sand & gravel	151,662	151,662	Cl-N ⁴⁸	IM-641
National Lime & Stone Co. P.O. Box 120 Findlay, OH 45839-0120 419-422-4341 R. W. Kruse, v. pres.	Lima Plant (4) Lima Plant (5) Lima Plant (6) Buckland Plant (11) Wapakoneta Plant (24) Bucyrus Plant (18) Delaware Plant (21) Findlay Plant (149) Marion Plant (60) Carey Plant (134) Upper Sandusky Plant (380) Upper Sandusky Plant (380) Upper Sandusky Plant (381)	Allen Allen Allen Auglaize Auglaize Crawford Delaware Hancock Marion Wyandot Wyandot Wyandot Wyandot Wyandot	limestone limestone limestone sand & gravel limestone limestone limestone limestone limestone sand & gravel sand & gravel sand & gravel	1,020,483 50 288,602 206,011 1,054,970 1,426,789 942,764 663,851 2,757,087 51 189,719 51	1,076,273 283,375 210,626 1,219,265 1,493,193 873,733 539,349 2,637,115 186,085	An-2 An-3 An-11 Ae-10 Ae-30 Cd-1 Del-5 Hk-7 Mn-3 Wt-1 Wt-5 Wt-15 Wt-18	IM-540 IM-484 IM-541 IM-486 IM-598 IM-404 IM-207 IM-1002 IM-168 IM-405 IM-376 IM-376 IM-551
Neer's Sand & Gravel 4859 Twp. Rd. 45 Bellefontaine, OH 43311 513-585-6733 Arden J. Neer, Sr., owner	Neer's Sand & Gravel (189)	Logan	sand & gravel	123,342	118,364	Lgn-6	IM-459
⁴⁸ No mine number has been assigned by ⁴⁸ No sales or production. ⁵⁰ All sales and production are reported ⁵¹ All sales and production are reported	under An-3.						

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit numbe
Nelson Sand & Gravel, Inc. P.O. Box 31 Kingsville, OH 44048 216-224-0198 Thomas H. Nelson, pres.	Nelson Sand & Gravel, Inc. (14) Nelson Sand & Gravel, Inc. (510	Ashtabula Ashtabula	sand & gravel sand & gravel	600 8,300	600 8,300	Asa-12 Asa-N ⁵²	IM-911, IM-113 IM-1109
Newbury Sand & Gravel 15365 Ravenna Rd. Burton, OH 44021 216-834-8500 Blaine M. Kaufman, owner	Newbury Sand & Gravel (517) (50)	Geauga	sand & gravel sandstone	53 53		Gea-N ⁵²	IM-1123
New Carlisle Sand & Gravel Co. 6090 S. Scarff Rd. New Carlisle, OH 45344 513-845-0696 Lee Upton, owner	New Carlisle Sand & Gravel Co. (217)	Miami	sand & gravel	161	161	Mi-501	
Newton Asphalt P.O. Box 86 Strasburg, OH 44680 216-878-5648 G. A. Gessner & C. T. Newton, partners	516 (428)	Tuscarawas	sand & gravel	80,851	80,851	Ts-2001	IM-1004
Northern Ohio Materials, Inc. 8300 State Rte. 14 Streetsboro, OH 44241 216-626-5577 Roger Schuck, operations mgr.	Northern Ohio Materials, Inc. (273)	Portage	sand & gravel	305,563	283,172	Pe-85	IM-700
Northern Ohio Paving Co. 1750 Highland Rd. Twinsburg, OH 44087 216-425-7861 Walter H. Edwards, pres.	Northern Ohio Paving Co. (316)	Stark	sand & gravel	53		Sk-N ⁵²	IM-156
Northmont Sand & Gravel Co. P.O. Box 185 Englewood, OH 45322 513-836-1998 Robert D. Eyre, pres.	Northmont Sand & Gravel Co. (235)	Montgomery	sand & gravel	54,189	45,974	My-49	IM-370
North Ridge Materials 3052 E. Center St. P.O. Box 599 North Kingsville, OH 44068 216-224-1009 Joseph E. Simak, pres.	North Ridge Materials (413)	Ashtabula	sand & gravel	42,213	34,778	Asa-18	IM-949
North Shore Stone Quarries, Inc. 72 Fernhill Ave. Columbus, OH 43228 614-878-3628 Clifford Hammond, pres.	North Shore Stone Quarries, Inc. (109)	Seneca	limestone	7,788	7,788	Sa-8	IM-313
Northwood Stone & Asphalt Co. 1558 County Rd. 105 Belle Center, OH 43310 513-464-3833 Don E. Mill, pres.	Northwood Stone & Asphalt Co. (51) Rockhold Division (119)	Logan Union	limestone limestone	140,561 116,505	158,550 135,054		IM-494 IM-208
Nutter Bros. Coal Co., Inc. P.O. Box 248 New Straitsville, OH 43766 614-394-2681 James P. Nutter, pres.	Nutter Bros. Coal Co., Inc. (83) (83) Nutter Bros. Coal Co., Inc. (98)	Perry	clay shale clay	13,986 13,455 15,700	13,986 13,455 15,700	Py-336 Py-N ⁵²	IM-1040 IM-1097
Carl E. Oeder & Sons Sand & Gravel 3890 Turtlecreek Rd. Lebanon, OH 45036 513-494-1555 Carl E. Oeder, pres.	Carl E. Oeder & Sons Sand & Gravel (352)	Warren	sand & gravel	408,609	408,609	Wan-41 ⁵⁴	IM-629
Ohio Asphaltic Limestone Corp. 8591 Mad River Rd. Hillsboro, OH 45133 513-364-2191 W. C. Mason, pres.	Ohio Asphaltic Limestone Corp. (42)	Highland	limestone	333,346	295,500	Hd-3	IM-253

and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Olen Corp. 4755 S. High St. Columbus, OH 43207-4028	Hilliard Plant #1 (102) (154) Columbus Plant #3 (465)	Franklin Franklin	sand & gravel limestone sand & gravel	171,968 586,708 1,307,412	153,087 623,220 1,362,395	Fn-43 Fn-58	IM-188
614-491-1515 Wayne Rayburn, pres.	Fredericktown Plant #2 (161)	Knox	sand & gravel	370,328	363,923	Kx-16	IM-793
Oneida Sand & Gravel, Inc. 8000 Blade Rd. NW Malvern, OH 44644 216-343-6831 Louis H. Smitley, pres.	Oneida Sand & Gravel, Inc. (47)	Carroll	sand & gravel	79,091	65,337	Cl-204	IM-554
Osborne Materials Co. P.O. Box 248 Grand River, OH 44045-0248 216-357-5562 Harold T. Larned, pres.	Osborne Materials Co. (2)	Lake Erie	sand & gravel (dredged)	112,012	112,012	Lke-D ⁵⁵	
Oster Sand & Gravel, Inc. 5947 Whipple Ave. NW North Canton, OH 44720-7692 216-494-5472 Marlene K. Oster, pres.	Massillon Plant (326) Bolivar Plant (342)	Stark Tuscarawas	sand & gravel sand & gravel	440,262 138,383	440,262 138,383	Sk-165 Ts-1852	IM-192, IM-78 IM-75
Ours Sand & Gravel 20444 State Rte. 7 South Crown City, OH 45623 614-256-1378 Donald & Gloria Ours, owners	Ours Sand & Gravel (466)	Gallia	sand & gravel	6,319	6,319	Ga-O ⁵⁵	IM-1028
Owens Stone Co., Inc. dba Delaware County Materials 1274 Ostrander Rd. Ostrander, OH 43061 614-881-4400 Kenneth F. Manning, pres.	Owens Stone Co., Inc. (22)	Delaware	limestone	255,902	275,591	Del-3 ⁵⁶	IM-327
Partin Sand & Gravel 4252 Taylorsville Rd. Dayton, OH 45424 513-233-9501 Arthur C. Partin, owner	Partin Sand & Gravel (236)	Montgomery	sand & gravel	2,000	2,000	My-55 ⁵⁷	IM-571
R. H. Penick Co. 1504 Blue Jay Rd. Heath, OH 43056 614-323-3040 R. H. Penick, owner	R. H. Penick Co. (3)	Licking	salt	21,177	21,177	Lg-45	
Penry Stone Co. P.O. Box 176 Radnor, OH 43066 614-595-3473 Walter P. Penry, pres.	Penry Stone Co. (23) Penry Stone Co. (198)	Delaware Marion	limestone sand & gravel	317,097 48,169	317,097 48,169	Del-2 Mn-4	IM-299 IM-290
Petersburg Stone Co. 5886 E. Pine Lake Rd. Petersburg, OH 44454 216-542-0033 George Pappas, owner	Petersburg Stone Co. (476) (161)	Mahoning	sand & gravel limestone	34,806	34,806	Mg-629	IM-1008
Phillips Sand & Gravel U.S. Rte. 35 Box 187 Alpha, OH 45301 513-426-5461 George E. Phillips, pres.	Phillips Sand & Gravel (115)	Greene	sand & gravel	361,871	361,871	Ge-36	IM-305
Piqua Materials, Inc. Piqua Minerals Division 1750 W. Statler Rd. Piqua, OH 45356 513-773-4824 Albert R. Donovan, mgr.	Piqua Minerals Division (64)	Miami	limestone	307,771	324,260	Mi-1	IM-382

Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
C. F. Poeppelman, Inc. (67)	Miami	limestone	175,047	175,047	Mi-10	IM-335
Portage Lakes Sand & Gravel Co. (384)	Summit	sand & gravel	163,481	163,481	St-53	IM-874
Prairie Lane Sand & Gravel Co. (372)	Wayne	sand & gravel	121,158	121,158	We-11	IM-547
Precision Aggregate, Inc. (379)	Wyandot	sand & gravel	60,384	60,384	Wt-4	IM-520
Harlem Springs (511) (15)	Carroll	sand & gravel limestone	917 600	917 600	Cl-183	IM-7
Putnam Stone Co. (98)	Putnam	limestone	251,745	218,225	Pm-2	IM-570
Quality Ready Mix, Inc. (25)	Auglaize	sand & gravel	76,260	76,260	Ae-16	IM-595
Quality Stone Co. (148)	Vinton	limestone	171,834	179,850	Vn-190	D-0761
Copley Sand & Gravel (427)	Summit	sand & gravel	81,917	81,917	St-54	IM-934
Rack Sand, Inc. (139)	Hamilton	sand & gravel	109,308	109,308	Hmn-10	IM-226
Rainbow Sand & Gravel, Inc. (280)	Portage	sand & gravel	42,456	42,456	Pe-64	IM-229, IM-1017
Ramsier Sand & Gravel (205)	Medina	sand & gravel	59		Ma-12	IM-516
Red Brush Peat Co. (482) (116) (9)	Portage	sand & gravel clay peat	2,234 3,234 3,159	2,234 3,234 3,129	Pe-61	IM-1064
	location number) C. F. Poeppelman, Inc. (67) Portage Lakes Sand & Gravel Co. (384) Prairie Lane Sand & Gravel Co. (372) Precision Aggregate, Inc. (379) Harlem Springs (511) (15) Putnam Stone Co. (98) Quality Ready Mix, Inc. (25) Quality Stone Co. (148) Copley Sand & Gravel (427) Rack Sand, Inc. (139) Rainbow Sand & Gravel, Inc. (280) Ramsier Sand & Gravel (205)	C. F. Poeppelman, Inc. (67) Miami Portage Lakes Sand & Gravel Co. (384) Prairie Lane Sand & Gravel Co. (372) Wayne Precision Aggregate, Inc. (379) Wyandot Harlem Springs (511) (15) Carroll Putnam Stone Co. (98) Putnam Quality Ready Mix, Inc. (25) Auglaize Quality Stone Co. (148) Vinton Copley Sand & Gravel (427) Summit Rack Sand, Inc. (139) Hamilton Rainbow Sand & Gravel, Inc. (280) Portage Ramsier Sand & Gravel (205) Medina Red Brush Peat Co. (482) (116)	C. F. Poeppelman, Inc. (67) Miami limestone Portage Lakes Sand & Gravel Co. (384) Prairie Lane Sand & Gravel Co. (372) Precision Aggregate, Inc. (379) Wayne sand & gravel Precision Aggregate, Inc. (379) Wyandot sand & gravel Harlem Springs (511) (15) Putnam Stone Co. (98) Putnam limestone Quality Ready Mix, Inc. (25) Auglaize sand & gravel Quality Stone Co. (148) Vinton limestone Copley Sand & Gravel (427) Summit sand & gravel Rack Sand, Inc. (139) Hamilton sand & gravel Rainbow Sand & Gravel, Inc. (280) Portage sand & gravel Ramsier Sand & Gravel (205) Medina sand & gravel Red Brush Peat Co. (482) (116)	C. F. Poeppelman, Inc. (67) Miami limestone 175,047 Portage Lakes Sand & Gravel Co. (384) Summit sand & gravel 163,481 Prairie Lane Sand & Gravel Co. (372) Wayne sand & gravel 121,158 Precision Aggregate, Inc. (379) Wyandot sand & gravel 60,384 Harlem Springs (511) Carroll sand & gravel limestone 917 Putnam Stone Co. (98) Putnam limestone 251,745 Quality Ready Mix, Inc. (25) Auglaize sand & gravel 76,260 Quality Stone Co. (148) Vinton limestone 171,834 Copley Sand & Gravel (427) Summit sand & gravel 81,917 Rack Sand, Inc. (139) Hamilton sand & gravel 109,308 Rainbow Sand & Gravel, Inc. (280) Portage sand & gravel 42,456 Ramsier Sand & Gravel (205) Medina sand & gravel 59 Red Brush Peat Co. (482) (116) Portage sand & gravel 2,234 Carroll sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234 Copley Sand & Gravel (205) Medina sand & gravel 2,234	C. F. Poeppelman, Inc. (67) Miami limestone 175,047 175,047	C. F. Poeppelman, Inc. (67) Miami limestone 175,047 175,047 Mi-10

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Richards & Son, Inc. P.O. Box 232 Pomeroy, OH 45769 614-247-2311 Dennis R. Taylor, v. pres.	Richards & Son, Inc. (212)	Meigs	sand & gravel	557,637	557,637	Ms-298	IM-32
Richards Farms, Inc. 24537 Canal Rd. Circleville, OH 43113 614-474-3602 B. S. Richards, pres.	Richards Farms, Inc. (481)	Pickaway	sand & gravel	23,039	23,039	Pky-R ⁶⁰	IM-993
Richland Moulded Brick Co. 1000 Richland Shale Rd. P.O. Box 1711 Mansfield, OH 44901 419-524-0000 Dudley P. Frame, Jr., pres.	Richland Moulded Brick Co. (114)	Richland	shale	6,555	6,555	Rd-R ⁶⁰	IM-1035
Ridge Township Quarry 16905 Middlepoint Rd. Van Wert, OH 45891 419-238-2533 Jenny Lautenschleger, foreman	Ridge Township Quarry (122)	Van Wert	limestone	51,955	51,955	Vt-7	IM-642
Ries Sand & Gravel 169 State Rte. 95 Jeromesville, OH 44840 419-368-7833 Robert Ries, owner	Ries Sand & Gravel (6)	Ashland	sand & gravel	903	903	Ald-9	IM-745
Riverside Sand & Gravel Co., Inc. P.O. Box 324 Tallmadge, OH 44278-0324 216-673-2021 A. H. Acken, Jr., pres.	Riverside Sand & Gravel Co., Inc. (333) (49)	Summit	sand & gravel sandstone	26,754 25,942	26,754 25,942	St-24	IM-239
Gary Roberts Excavating 570 Derby Downs Rd. Newark, OH 43055 614-763-3206 Gary L. Roberts, owner	Gary Roberts Excavating (419)	Licking	sand & gravel	61		Lg-504	IM-991
Rogers Group, Inc. dba Norwalk Sand & Gravel P.O. Box 527 Sandusky, OH 44870 419-625-8493 Richard Rechter, pres.	Norwalk Sand & Gravel (157)	Huron	sand & gravel	114,290	126,839	Hrn-1	IM-550
Rogers Group, Inc. dba Sandusky Crushed Stone Co. P.O. Box 527 Sandusky, OH 44870 419-625-8493 Richard Rechter, pres.	Sandusky Crushed Stone Co. (25)	Erie	limestone	2,965,492	3,117,216	Ee-11	IM-263
Ross County Gravel Co. P.O. Box 158 Sabina, OH 45169-0158 513-584-2486 S. Craig Beam, pres.	Ross County Gravel Co. (530)	Ross	sand & gravel	61		Rs-R ⁶⁰	IM-1143
Rubber City Sand & Gravel Co. P.O. Box 106 Uniontown, OH 44685 216-699-3311 William H. Leach, Sr., owner	Rubber City Sand & Gravel Co. (334)	Summit	sand & gravel	173,905	173,905	St-9	IM-167
Rubel Quarry, Inc. 35479 State Rte. 78 Lewisville, OH 43754 614-567-3217 Randy Rubel, pres.	Rubel Quarry, Inc. (164)	Monroe	limestone	314	314	Me-509	IM-1094
Rupp Construction, Inc. 18228 Fulton Rd. Marshallville, OH 44645 216-855-2781 J. P. Radabaugh, pres.	Rupp Construction, Inc. (373)	Wayne	sand & gravel	333,712	333,712	We-7	IM-471
⁶⁰ No mine number has been assigned by ⁶¹ No sales or production.	the Division of Mines.						

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit numbe
S. K. Construction Co. 2514 Atco Ave. Middletown, OH 45042 513-424-1613 H. R. Smith, pres.	Ron Chrisman Farm (120)	Butler	clay	89,982	89,982	Br-SK ⁶²	IM-1137
S & S Aggregate, Inc. P.O. Box 1585 Zanesville, OH 43702-1585 614-453-0624 Larry E. Young, v. pres.	Plant #1 (101) Plant #13 (159) S & S Aggregate, Inc. (63) Twin Lakes Sand, Inc. (281) Twin Lakes Sand, Inc. (282) Twin Lakes Sand, Inc. (336)	Franklin Knox Mercer Portage Portage Summit	sand & gravel sand & gravel limestone sand & gravel sand & gravel sand & gravel	300,000 164,727 100,000 125,000 50,000 105,000	300,000 164,727 100,000 125,000 50,000 105,000	Fn-24 Kx-13 Mr-2 Pe-59 Pe-67 St-44	IM-266 IM-343 IM-430 IM-210 IM-202 IM-178
G. M. Sader Excavating & Paving, Inc. P.O. Box 306 Bowling Green, OH 43402 419-352-5113 Gregory M. Sader, pres.	G. M. Sader Excavating & Paving, Inc. (456) (104)	Wood	sand & gravel	15,605 63	1,365	Wd-13	IM-998
Salt Creek Materials, Inc. 880 Spry Rd. Zanesville, OH 43701 614-872-3860 Charles O. Lighthizer, owner	Salt Creek Materials, Inc. (248) Salt Creek Materials, Inc. (144)	Muskingum Muskingum	sand & gravel limestone	3,417 15,944	0 15,944	Mum-216 Mum-269	IM-689 IM-1009
Samco, Inc. 10217 State Rte. 534 N Middlefield, OH 44062 216-272-5158 J. Jim Holmes, pres.	Springbrook (340)	Ashtabula, Trumbull	sand & gravel	355,474	355,474	Tl-12 ⁶⁴	IM-131
Sandkuhl Tile Co., Inc. 05536 Kossuth-Amanda Rd. Spencerville, OH 45887 419-647-4131 Leslie E. Sandkuhl, pres.	Sandkuhl Tile Co., Inc. (2)	Auglaize	clay	3,216	3,109	Ae-7	
Sands Hill Coal Co., Inc. 1203 N. Pennsylvania Ave. Wellston, OH 45692 614-384-5659 Jack Huffman, pres.	Sands Hill Strip #4 (158)	Jackson	limestone	261,756	261,756	Jkn-SH ⁶²	IM-1068
Sant Sand & Gravel, Inc. P.O. Box 750 Mt. Vernon, OH 43050 614-397-0000 Keith L. Sant, pres.	Sant Sand & Gravel, Inc. (163)	Knox	sand & gravel	58,299	83,271	Kx-3	IM-300
Michael B. Sayers P.O. Box 515 Put-in-Bay, OH 43456-0515 419-285-2260 Michael B. Sayers, owner	Michael B. Sayers (516)	Delaware	sand & gravel	5,984	5,984	Del-S ⁶²	IM-1118
Schilling Contractors, Inc. Rte. 2 Box 326 Ironton, OH 45638 614-532-8463 Earl P. Schilling, pres.	Schilling Contractors, Inc. (305)	Scioto	sand & gravel	63		So-78	
Schloss Paving Co. 13700 McCracken Rd. Cleveland, OH 44125 216-587-4900 Raymond E. Schloss, Sr., pres.	Schloss Paving Co. (274)	Portage	sand & gravel	97,057	97,057	Pe-60	IM-78
Schrader Sand & Gravel 293 Tile Mill Rd. Beaver, OH 45613 614-226-1902 Melvin Schrader, owner	Schrader Sand & Gravel (45)	Pike	sandstone	32,989	34,878	Pke-31	IM-835
Scioto Sand & Gravel P.O. Box 31 Marion, OH 43301-0031 614-726-2164 Gerald E. Fleming, pres.	Scioto Sand & Gravel (197)	Marion	sand & gravel	1,639	0	Mn-16	IM-171

and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
cioto Valley Resources P.O. Box 760 Lucasville, OH 45648 513-393-4211 John B. Patton, pres.	Scioto Valley Resources Division (395)	Scioto	sand & gravel	434,155	495,355	So-100	IM-760
co-Mac Development 1577 W. River Rd. Dayton, OH 45418 513-268-0044 James T. McDonald & H. A. Scott, owners	Sco-Mac Development (236)	Montgomery	sand & gravel	5,400	5,400	My-55 ⁶⁵	IM-571
Seaway Sand & Stone, Inc. 2190 Whitehouse-Spencer Rd. Swanton, OH 43558 419-865-5751 Mack S. Moon, pres.	Seaway Sand & Stone, Inc. (195) Stone Oaks (473)	Lucas Lucas	sand & gravel sand & gravel	59,632 76,740	59,632 76,740	Ls-13 Ls-SS ⁶⁶	IM-492 IM-1069
seville Sand & Gravel, Inc. 8215 Seville Rd. Seville, OH 44273 216-948-1812 George Cross, pres.	Seville Sand & Gravel, Inc. (206)	Medina	sand & gravel	328,488	328,488	Ma-22	IM-425, IM-650, IM-651
Shamrock Gravel Co. 2993 Woodsdale Rd. Trenton, OH 45067 513-988-0647 Dom M. Cisle, pres.	Shamrock Gravel Co. (38)	Butler	sand & gravel	433,198	433,198	Br-52	IM-814
Sharon Stone Co. P.O. Box 100 Dexter City, OH 45727 614-783-3575 John P. McCort, pres.	Sharon Stone Co. (167)	Noble	limestone	95,928	95,928	Ne-S ⁶⁶	IM-913
The Shelly Co. Cox Gravel Division P.O. Box 308 Trinway, OH 43842 614-754-2011 Richard Cox, pres.	Jennings-Lacy (244) Prospect (243) Gilbert Cox (449)	Muskingum Muskingum Muskingum	sand & gravel sand & gravel sand & gravel	179,682 16,278 3,527	303,688 30,909 4,583	Mum-799 Mum-863 Mum-899	IM-317 IM-264
R. W. Sidley, Inc. 615 W. Main St. Conneaut, OH 44030 216-298-3232 Robert C. Sidley, pres.	Conneaut Pit (15)	Ashtabula	sand & gravel	70,300	75,800	Asa-15	IM-783
t. W. Sidley, Inc. 7123 Madison Rd. Thompson, 0H 44086 216-298-3232 Robert C. Sidley, pres.	Thompson Pit (18) Painesville Pit (166)	Geauga Lake	sandstone sand & gravel	238,709 42,550	263,506 33,050	Gea-1 Lke-7	IM-163 IM-162
Sidney Sand & Gravel Co.	Milligan & Milligan-Washington Twp.	Shelby	sand & gravel	188,355	188,355	Shy-13	IM-412
P.O. Box 379 Sidney, OH 45365 513-492-3125 Thomas P. Milligan, pres.	Pit (312) Rock Run Quarry (111) Wagner (493)	Shelby Shelby	limestone sand & gravel	41,258	41,258	Shy-16 Shy-S ⁶⁶	IM-411 IM-1005
Sidwell Bros., Inc. 4620 Limestone Valley Rd. Zanesville, OH 43701 614-849-2392 Dale R. Sidwell, pres.	Stonehill Quarry (146) Sidwell Quarry (78)	Coshocton Muskingum	limestone limestone	88,687 583,310	88,687 583,310	Cn-830 Mum-104	IM-1049, IM-1102 IM-277
iilchuk Gravel Co. 2470 Wall Rd. Rittman, OH 44270 216-336-8796 Junior F. Silchuk, owner	Silchuk Gravel Co. (208)	Medina	sand & gravel	68		Ma-16	
Slankard Dozer Service, Inc. Rte. 1 Box 49 Strasburg, OH 44680 216-878-5883 Jerry L. Slankard, pres.	Slankard Dozer Service, Inc. (54)	Tuscarawas	sandstone	68		Ts-2032	IM-1141

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Small's Sand & Gravel, Inc. P.O. Box 617 Gambier, OH 43022 614-427-4096 Michael Small, pres.	Small's Sand & Gravel, Inc. (165) Small's Sand & Gravel, Inc. (408)	Knox Knox	sand & gravel sand & gravel	280,586	280,586	Kx-15 Kx-17	IM-967 IM-968
Sober Sand & Gravel Co. 2898 Tallmadge Rd. Ravenna, OH 44266 216-325-7013 Waldo A. Sober, pres.	Sober Sand & Gravel Co. (275)	Portage	sand & gravel	1,700	1,700	Pe-18	IM-193
Soehnlen Bros. Sand & Gravel, Inc. Rte. 1 Box 88 Beach City, OH 44608 216-756-2244 Francis L. Soehnlen, pres.	Soehnlen Bros. Sand & Gravel, Inc. (343)	Tuscarawas	sand & gravel	50,432	50,432	Ts-1826	IM-88
Solomon's Mines, Inc. 37551 Butcher Rd. Salem, OH 44460 216-332-4634 Jack Solomon, owner	Solomon's Mines, Inc. (196)	Mahoning	sand & gravel	21,238	21,238	Mg-632	IM-808
Solon Excavators Sand & Gravel, Inc. 10925 Mantua Center Rd. P.O. Box Q Mantua, OH 44255 216-274-8241 Howard Sargent, pres.	Trethewey (443) Solon Excavators Sand & Gravel, Inc. (276) Solon Excavators Sand & Gravel, Inc. (486)	Geauga Portage Portage	sand & gravel sand & gravel sand & gravel	134,538 69 199,637	134,538 199,637	Gea-40 Pe-36 Pe-SE ⁷⁰	IM-977 IM-90 IM-1096
Soltis Sand & Gravel 19102 Nelson Ledge Rd. Garrettsville, OH 44231 216-548-5813 James W. Soltis, owner	Soltis Sand & Gravel (415) (86)	Geauga	sand & gravel clay	4,112 6,375	4,112 6,375	Gea-9	IM-132
Southern Ohio Aggregates, Inc. 11641 Mosteller Rd. Cincinnati, OH 43113 513-771-0820 James P. Jurgensen, pres.	Southern Ohio Aggregates, Inc. (460) Southern Ohio Aggregates, Inc. (284)	Butler Preble	sand & gravel sand & gravel	3,000 1,500	3,000 1,500	Br-S ⁷⁰ Pre-7	IM-1053 IM-306
Southern Silica, Inc. P.O. Box 22 Richmond Dale, OH 45673 614-884-4721 George W. Cannon, Jr., pres.	Southern Silica, Inc. (34)	Ross	sandstone	202,517	153,303	Rs-16	IM-172
Southwestern Portland Cement Co. Eastern Division 506 E. Xenia Rd. P.O. Box 191 Fairborn, OH 45324 513-878-8651 Clarence Comer, pres.	Southwestern Portland Cement Co. (33) Southwestern Portland Cement Co. (10) Southwestern Portland Cement Co. (34) Harner (90) Southwestern Portland Cement Co. (72)	Clark, Greene Greene Greene Greene Montgomery	limestone clay limestone clay limestone	69 69 222,902 164,711 102,296	684,612 96,425 379,533	Ge-1 Ge-8 Ge-9 Ge-44 My-58	IM-393 IM-364 IM-364 IM-330
Speer Bros., Inc. 3812 Old Railroad Rd. Sandusky, OH 44870 419-626-5291 David Speer, pres.	Speer Bros., Inc. (89)	Erie	clay	69		Ee-32	IM-1077
Sphagnum Moss Peat Farm 9797 Thompson Rd. West Liberty, OH 43357 513-465-6765 Mike Poling, lessee	Sphagnum Moss Peat Farm (2)	Champaign	peat	12,719	7,420	Cpn-9	
Spring Creek Corp. 4723 Hardin-Wapak Rd. Sidney, OH 45365 513-492-4186 Nelson E. Barhorst, pres.	Pence Deposit (314) River Quarry (112) Jones Deposit (315) "H" Mine	Shelby Shelby Shelby Shelby	sand & gravel limestone sand & gravel sand & gravel	233,265 124,435 56,733 69	233,265 124,435 56,733	Shy-11 Shy-15 Shy-18 Shy-SC ⁷⁰	IM-743 IM-387 IM-388 IM-1018
Spring Industries, Inc. P.O. Box 507 New Philadelphia, OH 44663 216-339-3585 Glenn Straub, pres.	Midvale Pit (344) County Line Plant (345)	Tuscarawas Tuscarawas	sand & gravel sand & gravel	336,598 67,116	461,500 0	Ts-1771 Ts-1788	IM-77 IM-73

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Spring Run Farm & Gravel 11070 Township Rd. 71 Killbuck, OH 44637-9715 216-276-8763 Gene Boughman, owner	Spring Run Farm & Gravel (416) (111)	Holmes	sand & gravel shale	13,626	13,626	Hs-96	IM-997
Spring Valley Investments, Inc. 2800 N. Turkeyfoot Rd. Akron, OH 44319 216-644-2285 James V. Crano, pres.	Spring Valley Investments, Inc. (335)	Summit	sand & gravel	71		St-26	IM-803
City of Springfield 201 Eagle City Rd. Springfield, OH 45502 513-390-7210 Mark Ricketts, water plant maintenance supervisor	City of Springfield (437)	Clark	sand & gravel	71		Ck-7	IM-449
Springfield Sand & Gravel Co. 4301 S. Charleston Pike Springfield, OH 45502 513-325-7386 Don E. Mill, pres.	Springfield Sand & Gravel Co. (58)	Clark	sand & gravel	376,609	376,609	Ck-25	IM-358
Standard Lafarge 6715 Tippecanoe Rd. Bldg. C Canfield, OH 44406 216-533-3338 D. B. Peart, pres. & CEO	Adams (2) Standard Slag Co. (156) Marblehead (84) Cutlip (255) Shalersville (277) Shalersville Portable (278) Mantua (487) Haverhill (306) Navarre (453)	Adams Hardin Ottawa Pike Portage Portage Portage Scioto Stark	limestone limestone limestone sand & gravel sand & gravel sand & gravel sand & gravel sand & gravel sand & gravel	388,059 71 1,605,566 235,392 685,759 71 71 307,503	349,510 1,671,479 204,155 617,934 346,133	Ads-6 Hdn-S ⁷² Oa-7 Pke-24 Pe-68 Pe-SS1 ⁷² Pe-SS2 ⁷² So-79 Sk-241	IM-659 IM-1034 IM-440 IM-222 IM-143, IM-687 IM-660, IM-1124 IM-1047 IM-221 IM-582
Steetley Quarry Products U.S., Inc. Ohio Lime Co. 128 E. Main St. Woodville, OH 43469 419-849-2321 Ian McGregor, pres.	Millersville Plant (103) Woodville Plant (104)	Sandusky Sandusky	limestone limestone	1,38 4 ,110	1,375,623	Sy-4 Sy-3	IM-381 IM-282
Steven R. Steiner 13354 Arnold Rd. Dalton, OH 44618 216-857-7665 Steven R. Steiner, owner	Stevens R. Steiner (535)	Wayne	sand & gravel	3,964	3,964	We-S ⁷²	IM-1136
Stewart & Reichman, Inc. 1977 State Rte. 416 SE Gnadenhutten, OH 44629 614-922-0050 Timothy G. Brown, pres.	Stewart & Reichman, Inc. (346)	Tuscarawas	sand & gravel	50,377	50,377	Ts-111	IM-55
Stillwater Sand & Gravel, Inc. 7850 Karns Rd. West Milton, OH 45383 513-698-3028 Ed Bohse, pres.	Stillwater Sand & Gravel, Inc. (447)	Miami	sand & gravel	101,633	81,400	Mi-504	IM-1032
Stocker Sand & Gravel Co. P.O. Box 176 Gnadenhutten, OH 44629 614-254-4635 William E. Stocker, pres.	Stocker Sand & Gravel Co. (347) Stocker Sand & Gravel Co. (348)	Tuscarawas Tuscarawas	sand & gravel sand & gravel	264,525 546,055	264,525 546,055	Ts-69 Ts-125	IM-51 IM-50
Stoneco, Inc. 1345 Ford St. P.O. Box 29A Maumee, OH 43537 419-893-8731 J. T. Kirkby, pres.	Maumee Quarry (54) Celina Quarry (62) Rocky Ridge (83) Auglaize Quarry (88) Scott Quarry (121) South Montpelier (375) North Montpelier (376) Lime City Quarry (131) Portage Quarry (132)	Lucas Mercer Ottawa Paulding Van Wert Williams Williams Wood Wood	limestone limestone limestone limestone limestone sand & gravel sand & gravel limestone	897,174 391,557 138,536 480,851 270,248 294,998 71 500,672 367,531	737,097 1,007,864 164,255 281,090 128,352 145,695 791,626 652,996	Ls-2 Mr-1 Oa-14 Pg-2 Vt-3 Ws-6 Ws-9 Wd-6 Wd-11	IM-503 IM-592 IM-320 IM-481 IM-495 IM-497 IM-498 IM-480 IM-475

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Stone Creek Brick Co. P.O. Box 116 Stone Creek, OH 43840 216-339-5511 A. C. Marsh, Jr., pres.	Stone Creek Clay Mine (67) Stone Creek Shale Pit (67)	Tuscarawas Tuscarawas	clay shale	43,763 4,037	43,763 4,037	Ts-1557 Ts-1558	IM-52 IM-52
Suever Stone Co., Inc. Bloomlock Rd. P.O. Box 10 Delphos, OH 45833 419-692-9796 Carl Suever, pres.	Suever Stone Co., Inc. (7) Delphos Quarry (123)	Allen Van Wert	limestone limestone	94,850 153,162	92,650 148,966	An-4 Vt-1	IM-491 IM-500
Dave Sugar, Inc. P.O. Box AH New Middletown, OH 44442 216-542-9397 David Sugar, pres.	Dave Sugar, Inc. (475)	Mahoning	sand & gravel	74		Mg-630	IM-1091
Sugarcreek Clay & Limestone, Inc. P.O. Box 402 Sugarcreek, OH 44681 216-852-4440 Daniel O. Miller, pres.	Newcomerstown Plant (72) Sugarcreek Clay & Limestone, Inc. (118) Sugarcreek Clay & Limestone, Inc. (69) (69)	Coshocton Tuscarawas	sand & gravel limestone clay shale	74 76,838 74 74	115,130	Cn-624 Ts-1928	IM-243 IM-98
Summitville Tiles, Inc. Summitville, OH 43962 216-223-1511 David Johnson, pres.	Summitville Tiles, Inc. (5) Summitville Tiles, Inc. (127)	Columbiana Columbiana	shale shale	32,004 4,063	32,004 4,063	Ca-205 Ca-989	IM-74 IM-1110
Sunshine Sand Co. 8861 State Rte. 43 Kent, OH 44240 216-587-2700 Margaret A. Bova, pres.	Sunshine Sand Co. (528)	Portage	sand & gravel	4,695	4,695	Pe-SSC ⁷⁵	IM-318
Swingle Drilling, Inc. 713 Keystone St. Crooksville, OH 43731 614-982-8420 Mark B. Swingle, pres.	Myron Taylor (97)	Perry	clay	930	630	Py-S ⁷⁵	IM-1080
Takacs Excavating Route 3 Bryan, OH 43543 419-636-2095 John Takacs, owner	Takacs Excavating (506)	Williams	sand & gravel	350	350	Ws-T ⁷⁵	IM-1022
Tarbox-McCall Stone Co. Div. of Hancock Ready Mix, Inc. 852 Western Ave. Findlay, OH 45840 419-422-1912 Kenneth R. Pfirsch, pres.	Tarbox-McCall Stone Co. (37)	Hancock	limestone	203,345	192,128	Hk-2	IM-439
Teague Gravel Co., Inc. 10924 Kinsman Rd. Newbury, OH 44065 216-564-5671 Donald Teague, pres.	Teague Gravel Pit (109)	Geauga	sand & gravel	72,806	72,806	Gea-35	IM-321
Thompson Bros. Mining Co. 3379 E. Garfield Rd. New Springfield, OH 44443 216-549-3979 J. E. Thompson, owner	Thompson Bros. Mining Co. (515)	Columbiana	sand & gravel	74		Ca-T ⁷⁵	IM-1138
Tipp Stone Co., Inc. P.O. Box 367 Troy, OH 45373 513-228-8423 T. L. Eidemiller, pres.	Troy (446) Meeker (238)	Miami Montgomery	sand & gravel sand & gravel	1,103 87,340	1,103 87,340	Mi-12 My-61	IM-467 IM-468
Towne Square Products 156 E. Broadway Westerville, OH 43081 614-882-6990 Suzanne Stilson Edgar, pres.	Towne Square Products (41)	Noble	shale	1,505	1,505	Ne-66	IM-664

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit numb
Tri-County Limestone Co. 4664 Hardin-Marion Rd. N Kenton, OH 43326 419-675-7127 Norman Cochran, pres.	Tri-County Limestone Co. (61)	Marion	limestone	154,351	154,351	Mn-1	IM-250
Robert Tripp 29332 Enterprise-Isles Rd. Logan, OH 43138 614-385-9402 Robert Tripp, owner	Robert Tripp (522)	Hocking	sand & gravel	2,846	1,910	Hg-328	IM-1113
Fri-State Asphalt Products 44 Sixteenth St. Wheeling, WV 26003 304-233-1110 Glenn Straub, pres.	Tri-State Asphalt Products (26)	Belmont	sand & gravel	234,098	226,513	Bt-74	IM-288
Frout Sand & Gravel Co. Rte. 4 Marietta, OH 45750 614-373-7471 Henry C. Trout, Jr., owner	Trout Sand & Gravel Co. (369)	Washington	sand & gravel	39,636	39,636	Wn-510	IM-25
Tuffco Sand & Gravel, Inc. 327 N. Main St. Marysville, OH 43040 513-644-9262 David J. Morrison, pres.	Tuffco Sand & Gravel, Inc. (474)	Madison	sand & gravel	50,091	50,091	Mdn-11	IM-1063
U.S. Silica Co. P.O. Box 100 Rockwood, MI 48173 815-434-0188 Richard E. Goodell, pres.	Coxey Works (42)	Tuscarawas	sandstone	12,898	12,898	Ts-1660	IM-68
Union Aggregates Co. 8328 Watkins Rd. P.O. Box 178 Ostrander, OH 43061 614-666-2013 Don E. Mill, pres.	Prospect Sand & Gravel Plant (200) Green Camp Gravel Plant (201) Union Limestone Plant (120)	Marion Marion Union	sand & gravel sand & gravel limestone	37,069 76 501,144	33,574 501,144	Mn-10 Mn-12 Un-2	IM-196 IM-197 IM-236
Union Slag Corp. Rte. 4 Marietta, OH 45750 614-373-5436 Josephine Hune, owner	Plant #3 (370) Plant #2 (371)	Washington Washington	sand & gravel sand & gravel	14,573 18,715	12,576 13,285	Wn-43 Wn-44 ⁷⁷	IM-61 IM-63
United Builders Distributing Corp. 24371 State Rte. 30 E. Rochester, OH 44625 216-894-2394 Roger McDaniel, pres.	United Builders Distributing Corp. (464)	Columbiana	sand & gravel	76		Ca-U ⁷⁸	IM-999
V. I. P. Contractors, Inc. 3152 C1 Lighthouse Dr. Fairfield, OH 45014 513-874-8704 James E. Broshear, pres.	V. I. P. Contractors, Inc. (28)	Butler	sand & gravel	76		Br-36	IM-649
Valley Materials Co. 4947 U.S. Rte. 23 South P.O. Box 400 Piketon, OH 45661 614-289-4400 Ralph McFann, pres.	Valley Materials Co. (252) (99)	Pike	sand & gravel clay	133,528 1,153	133,528 1,153	Pke-26	IM-142
Valley Mining Co. 26 N. Shawnee Ave. Zanesville, OH 43701 614-452-3633 F. Klemm Ungemach III, pres.	Valley Mining Co. (122)	Muskingum	clay	2,686	2,686	Mum-904	IM-1127
Van Wey Sand & Gravel, Inc. 6824 Mt. Vernon Rd. NE Newark, OH 43055 614-745-5965 Richard L. Van Wey, pres.	Van Wey Sand & Gravel, Inc. (179)	Licking	sand & gravel	344,683	355,083	Lg-10	IM-217

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Wagner Quarries Co. 4203 Milan Rd. Sandusky, OH 44870 419-625-8141 Stephen C. Lochner, pres.	Wagner Quarries Co. (26) Wagner Quarries Co. (145)	Erie Erie	limestone limestone	1,312,074	1,574,057	Ee-1 Ee-31	IM-310 IM-1044
Waller Bros. Stone Co. P.O. Box 157 McDermott, OH 45652 614-259-2356 F. L. Waller, pres.	Inskeep Quarry (36) Crabtree Quarry (37) Miller Quarry (38)	Scioto Scioto Scioto	sandstone sandstone sandstone	13,439 4,918 79	13,439 4,918	So-48 So-76 So-82	IM-140 IM-141 IM-158
Walter's Gravel 11302 National Rd. SE Thornville, OH 43076 614-323-0783 Viva W. Fenice, owner	Walter's Gravel (180)	Licking	sand & gravel	79		Lg-15	
Ward Materials, Inc. 385 Oak St. R.R. 2 Leipsic, OH 45856 419-943-2450 Arnold W. Rosebrock, pres.	Ward Materials, Inc. (2)	Allen	sand & gravel	41,180	54,180	An-15	IM-721
Don Wartko Construction, Inc. 975 Tallmadge Rd. Kent, OH 44240 216-673-5252 Donald Wartko, pres.	Don Wartko Construction, Inc. (483)	Portage	sand & gravel	2,859	2,859	Pe-92	IM-522
Washington County Engineer 205 Putnam St. Marietta, OH 45750 614-373-6623 Paul F. Junk, engineer	Washington County Pit (505)	Washington	sand & gravel	17,888	17,888	Wn-Wn ⁸⁰	IM-989
Waste Management of Ohio 3619 Gracemont St. SE East Sparta, OH 44626 216-874-3855 Greg A. Terwilliger, site mgr.	Statewide RDF (52) (125) (125) (125) Countywide RDF (126) (126)	Stark	sandstone clay shale clay shale	293,728 275,444 150,000 306,478	293,728 275,444 150,000 306,478	Sk-WM ⁸⁰ Sk-WM1 ⁸⁰	IM-1122 IM-750
Waterloo Coal Co., Inc. P.O. Box 626 Jackson, OH 45640 614-682-7787 Phil A. Bowman, v, pres.	Waterloo-Zoar (47) (23)	Jackson	limestone	594,342 3,885	583,218 3,885	Jkn-367	IM-774
Watson Gravel, Inc. 2728 Hamilton-Cleves Rd. P.O. Box 277 Ross, OH 45061 513-863-0070 Ronald E. Watson, pres.	Watson Pit (44) Spring Valley (441) Harrison Pit (142) Mason Pit (363)	Butler Greene Hamilton Warren	sand & gravel sand & gravel sand & gravel sand & gravel	534,605 388,317 560,080	534,605 388,317 560,080	Br-47 Ge-38 Hmn-60 Wan-10	IM-111 IM-333 IM-761 IM-465
Weber Aggregates P.O. Box 116 Reedsville, OH 45772 614-378-6293 Denver Weber, owner	Weber Aggregates (459)	Athens	sand & gravel	60,914	60,914	As-W ⁸⁰	IM-979
Weber Sand & Gravel, Inc. Rte. 2 Box 3 Bryan, OH 43506 419-636-7920 Thomas G. Weber, pres.	Weber Sand & Gravel, Inc. (377)	Defiance, Williams	sand & gravel	103,019	103,019	Ws-11 ⁸¹	IM-509, IM-661
Weidle Sand & Gravel, Inc. P.O. Box 247 Germantown, OH 45327 513-855-2228 Ronal L. Weidle, Sr., pres.	Weidle Sand & Gravel, Inc. (41) Weidle Sand & Gravel, Inc. (239)	Butler Montgomery	sand & gravel sand & gravel	161,635 121,755			IM-177 IM-360
Welch Sand & Gravel, Inc. 10217 Columbia St. Harrison, OH 45030-9751 513-353-3220 Charles H. Welch, pres.	Schlichter Pit (45) Fernald Pit (143) East Miami Pit (144)	Butler Hamilton Hamilton	sand & gravel sand & gravel sand & gravel	224,738	224,738		IM-218 IM-823 IM-220

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
White Eagle Mining, Inc. P.O. Box 2 Pedro, OH 45659 614-533-2234 William Shope, Jr., pres.	White Eagle Mining, Inc. (121)	Lawrence	clay	11,500	11,500	Le-445	IM-1140
Whitewater Aggregates, Inc. P.O. Box 15307 Cincinnati, OH 45215 513-761-7800 Elster Varney, Jr., v. pres., operations	Whitewater Aggregates, Inc. (407)	Hamilton	sand & gravel	193,580	201,040	Hmn-69 ⁸²	IM-969
Frank Widmor Coal Co. P.O. Box 176 Blaine, OH 43909 614-635-4811 Frank Widmor, owner	Frank Widmor Coal Co. (152) (105) (105)	Belmont	limestone clay shale	23,721 750 3,930	23,721 750 3,930	Bt-1190	IM-1089
Mark Williams Blacktop Co., Inc. Rte. 4 Box 34 Marietta, OH 45750 614-373-2457 Mark Williams, owner	Williams Pit #1 (504) Williams Pit #2 (534)	Washington Washington	sand & gravel sand & gravel	2,753 5,636	16,445 20,226	Wn-1007 Wn-1009	IM-1042 IM-525
Dennis Winzeler Center St. Rte. 4 Box 4 Bryan, OH 43506 419-636-4285 Dennis & Polly Winzeler, owners	Dennis Winzeler (378)	Williams	sand & gravel	83		Ws-14	IM-614
Wise Gravel 8535 W. Klinger Rd. Covington, OH 45318 513-473-3246 John A. Wise, owner	Wise Gravel (221)	Miami	sand & gravel	6,000	6,000	Mi-9	IM-408
Wyandot Dolomite, Inc. P.O. Box 126 Carey, OH 43316-0126 419-396-7641 David J. Wolfe, pres.	Wyandot Dolomite, Inc. (135)	Wyandot	limestone	989,168	1,170,407	Wt-8	IM-273
Wysong Gravel Co. P.O. Box 5 Dayton, OH 45426-0005 513-962-2559 Gerald E. Wysong, pres.	Camden Plant (285) West Alexandria Plant (286)	Preble Preble	sand & gravel sand & gravel	141,052 82,042	141,052 82,042	Pre-4 Pre-6	IM-477 IM-478
Wysong Stone Co. 5897 State Rte. 503 N P.O. Box 159 Lewisburg, OH 45338 513-962-2559 Gerald E. Wysong, pres.	Wysong Stone Co. (95)	Preble	limestone	58,062	58,062	Pre-5	IM-447
X L Sand & Gravel P.O. Box 157 Negley, OH 44441 216-426-9876 Robert Lansberry, pres.	X L Sand & Gravel (68)	Columbiana	sand & gravel	82,500	82,500	Ca-881	IM-611
Xenia Sand, Gravel, & Asphalt Co. 588 Dayton-Xenia Rd. P.O. Box 10 Xenia, OH 45385 513-372-2978 David A. Thompson, owner	Xenia Sand, Gravel, & Asphalt Co. (117)	Greene	sand & gravel	9,760	2,884	Ge-10	IM-518
York Road Gravel Co. 8819 York Rd. SW Pataskala, OH 43062 614-927-1524 Jack & Jean Klima, owners	York Road Gravel Co. (181)	Licking	sand & gravel	10,935	7,717	Lg-38	IM-695

⁸²This mine was operated January through April 1991 by Whitewater Aggregates, Inc., and May through December by American Aggregates Corp.
83 No sales or production.

Name, address, telephone number, and president/owner/manager of company	Name of mine (and map location number)	County	Commodity	1991 sales (tons)	1991 production (tons)	State mine number	Division of Reclamation permit number
Young's Sand & Gravel Co. 689 State Rte. 39 W P.O. Box 117 Loudonville, OH 44842 419-994-3040 Milton, Marion, & Delmar Young, partners	Young's Sand & Gravel Co. (8) Young's Sand & Gravel Co. (412)	Ashland Ashland	sand & gravel sand & gravel	98,859 116,851	108,464 127,531	Ald-7 Ald-15	IM-392 IM-944
Zerger's Quarry 100 N. Sycamore St. Woodsfield, OH 43793 614-472-1675 Herman Zerger, owner	Zerger's Quarry (80)	Monroe, Noble	limestone	10,052	10,052	Ne-86 ⁸⁴	IM-70
Zink Petroleum Corp. dba State Rte. 416 Sand & Gravel 1530 Corporate Woods Pky. Suite 200 Uniontown, OH 44685 216-492-2854 Jeffrey E. Zink, pres.	State Rte. 416 Sand & Gravel (500)	Tuscarawas	sand & gravel	197,524	197,524	Ts-2018	IM-1076
Zoar Mining Co.	Zoar Mining Co. (70)	Tuscarawas	clay	85		Ts-538	IM-27
P.O. Box 550 Zoar, OH 44697 216-874-2434 David W. Johnson, pres.	Zoar Mining Co. (71) (71)	Tuscarawas	shale clay shale	788 996	23,901 996	Ts-540	IM-28
Zollinger Sand & Gravel Co. 11899 Easton Rd. Rittman, OH 44270 216-855-2464 Carl Zollinger, pres.	Zollinger Sand & Gravel Co. (374)	Wayne	sand & gravel	113,582	113,582	We-15	IM-398



Boulders of Massillon sandstone piled outside the Central Silica Co. rock crusher, Perry County. Photo taken during 1992 Ohio's Mineral Industries Teachers Workshop.

1991 LIMESTONE/DOLOMITE COMPANIES WITH SALES OR PRODUCTION

Company	No. of operations	Sales (tons)	Production (tons)	Company	No. of operations	Sales (tons)	Production (tons)
Addington, Inc.	1	81,727	81,727	Midwest Portland Cement Corp.	1	522,437	522,437
Alexandria Materials Co.	1	1,948	673	National Lime & Stone Co.	9	8,154,546	8,122,303
All Stone Co.	1	609	609	North Shore Stone Quarries, Inc.	1	7,788	7,788
American Aggregates Corp.	14	6,418,752	7,634,877	Northwood Stone & Asphalt Co.	2	257,066	293,604
Ayers Limestone Quarry, Inc.	1	103,882	103,882	Ohio Asphaltic Limestone Corp.	1	333,346	295,500
Barrett Paving Materials, Inc.	1	207.824	207,824	Olen Corp.	1	586,708	623,220
Bluffton Stone Co.	1	157,365	157,365	Owens Stone Co., Inc.,		,	
Central Ohio Coal Co.	1	170,207	170,207	dba Delaware County Materials	12	255,902	275,591
Chesterhill Stone Co.	1	506,493	535,299	Penry Stone Co.	1	317,097	317,097
Christman Quarry	2	79,170	79,170	Petersburg Stone Co.	1	34,806	34,806
Ciril Contain quanty	_	,		Piqua Materials, Inc.	1	307,771	324,260
Con-Ag, Inc.	1	288,624	279,860	* '			,
Connolly Construction Co., Inc.	11	24,604	24,604	C. F. Poeppelman, Inc.	1	175,047	175,047
Cravat Coal Co.	1	1,336	1,336	Puskarich Limestone, Inc.	1	600	600
Davon, Inc.	2	2,286,626	2,171,477	Putnam Stone Co.	1	251,745	218,225
C. E. Duff & Son, Inc.	1	199,025	199,025	Quality Stone Co.	1	171,834	179,850
DAGAYO		1 550 505	1 000 055	Ridge Township Quarry	1	51,955	51,955
E.M.A.I. Corp	2	1,573,587	1,802,375	D C I			
East Ohio Limestone Co.	1	33,840	29,390	Rogers Group, Inc.,	1	0.005.400	9 117 916
R. A. Eberts Co., Inc.	1 1	384,417	415,312	dba Sandusky Crushed Stone Co.	1 1	2,965,492 314	3,117,216
Erie Blacktop, Inc.	1	125,148	289,023	Rubel Quarry, Inc.			
The France Stone Co.	6	3,417,337	3,653,160	S & S Aggregate, Inc.	1	100,000 15,944	100,000 15,944
G & M Supply, Inc.,				Salt Creek Materials, Inc.	1 1		261,756
dba Clinton Stone, Inc.	1	117,433	117,433	Sands Hill Coal Co., Inc.	1	261,756	201,700
GenLime Group, L.P.	1	606,647	301,588	Sharon Stone Co.	1	95.928	95,928
Gottron Bros. Co.	1	62,116	57,644	Sidney Sand & Gravel Co.	1	41,258	41.258
Green Basin Coal, Inc.	î	27,634	27,634	Sidwell Bros., Inc.	2	671,997	671,997
Gregory Stone Co., Inc.	1	1,721	1,721	Southwestern Portland Cement Co.	2	325,198	1,064,145
Gregory Swite Co., me.	1	1,121	1,121	Spring Creek Corp.	1	124,435	124,435
J. M. Hamilton & Sons Co., Inc.	1	111,738	111,738	opining or con corp.			Í
Hardin Quarry Co., Inc.	1 1	184,484	184,484	Standard LaFarge	2	1,993,625	2,020,989
Holmes Limestone Co.	2	216,643	216,643	Steetley Quarry Products U.S., Inc.,			
Honey Creek Stone Co.	1	171,708	283,621	Ohio Lime Co.	2	1,384,110	1,375,623
Kimble Clay & Limestone Co.	1	87,760	87,760	Stoneco, Inc.	7	3,046,569	3,763,280
TZ* T *	4	107.070	107.070	Suever Stone Co., Inc.	2	248,012	241,616
King Limestone, Inc. Edward Kraemer & Sons, Inc.	1 1	167,072 877,449	167,072 859,298	Sugarcreek Clay & Limestone, Inc.	1	76,838	115,130
				Tombou McCall Stone Co. Div. of			
L & M Mineral Co. Lafarge Corp.	1 1	1,631 683,066	1,631 683,066	Tarbox-McCall Stone Co., Div. of Hancock Ready Mix, Inc.	1	203.345	192.128
Lakeland Construction	1	2,047	2,047	Tri-County Limestone Co.	1	154,351	154,351
Lakeland Construction	1	2,047	2,047	Union Aggregates Co.	1	501,144	501,144
Latham Limestone, Inc.	1	271.433	311,500	Wagner Quarries Co.	1	1,312,074	1,574,057
MacRitchie Materials, Inc.	î	121,752	121,752	Waterloo Coal Co., Inc.	1	594,342	583,218
Maple Grove Stone Co.	î	160,465	160,465	Waterioo Coar Co., Inc.	1	034,042	000,210
Marshall Quarry, Inc.	1	5,261	5,261	Frank Widmor Coal Co.	1	23,721	23,721
Martin Marietta Magnesia		-,	1	Wyandot Dolomite, Inc.	1	989,168	1,170,407
Specialties, Inc.	1	2,007,230	2,007,230	Wysong Stone Co.	1	58,062	58,062
*				Zerger's Quarry	1	10,052	10,052
Maxville Quarries, Inc.	2	185,765	182,600				
McCarthy Stone Quarry	1	122,689	122,689				
Melvin Stone Co.	3	1,138,981	1,138,981	TOTAL: 83 companies	126	50,247,142	53,944,380
Miami River Stone Co.	1	225,513	234,273				

¹This mine was operated May-December 1991 by American Aggregates Corp. and is not included in the total number of mines. ²This mine was operated 4th quarter 1991 by American Aggregates Corp. and is not included in the total number of mines.

1991 OHIO DIRECTORY OF LIMESTONE/DOLOMITE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

Name of operator	Name of mine or quarry	Township	Geological unit	Type and principal use	mine number
Davon, Inc.	Plum Run Stone Division	Meigs	Peebles, Greenfield, & Tymochtee Dolomites (Silurian)	crushed stone—riprap, flux stone, stone for portland cement concrete, road construction/resurfacing, railroad ballast, rock dust, sorbent, industrial uses, aglime	Ads-1
Standard Lafarge	Adams	Franklin	Niagaran dolomite (Silurian)	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building	Ads-6
Bluffton Stone Co.	Bluffton Stone Co.	Richland	Tymochtee Dolomite (Silurian)	crushed stone—unspecified	An-1
National Lime & Stone Co.	Lima Plant	Bath	Silurian	crushed stone—riprap, commercial building, railroad ballast; aglime	An-31
Suever Stone Co., Inc.	Suever Stone Co., Inc.	Spencer	Tymochtee Dolomite (Silurian)	crushed stone—stone for asphaltic concrete, road construction/resurfacing, commercial building; dimension stone; aglime	An-4
R. A. Eberts Co., Inc.	Diamond Stone	Lee		crushed stone—riprap, road construction/resurfacing	As-533
Con-Ag, Inc.	Con-Ag, Inc.	Noble	Cedarville Dolomite (Silurian)	crushed stone—riprap, stone for portland cement concrete, stone for bituminous concrete, road construction/resurfacing, commercial building	Ae-31
National Lime & Stone Co.	Buckland Plant	Moulton	Silurian	crushed stone—riprap, commercial building; aglime	Ae-10
Ayers Limestone Quarry, Inc.	c. Ayers Limestone Quarry, Inc.	Pease	Permian	crushed stone—riprap, road construction/ resurfacing	Bt-716
Cravat Coal Co.	Dover Pit	York	Fishpot limestone (Pennsylvanian)	crushed stone- road construction/resurfacing	Bt-119
Lakeland Construction	Lakeland Construction	Richland		crushed stone—flux stone	Bt-L2
Frank Widmor Coal Co.	Frank Widmor Coal Co.	Pultney		crushed stone—riprap	Bt-1190
Puskarich Limestone, Inc.	Harlem Springs	Lee	Pennsylvanian	crushed stone—riprap	Cl-183
American Aggregates Corp.	Springfield #423	Springfield	Cedarville Dolomite (Silurian)	crushed stone—road construction/resurfacing	Ck-1
Melvin Stone Co.	Melvin Stone Co.	Richland	Guelph Dolomite (Silurian)	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, residential/farm use; aglime	Cln-1
All Stone Co.	All Stone Co.	White Eyes		unspecified	Cn-A2
Sidwell Bros., Inc. (dba Stonehill Quarry, Inc.)	ehill Stonehill Quarry	Bedford, Perry	Putnam Hill limestone (Pennsylvanian)	crushed stone—road construction/resurfacing	Cn-830
National Lime & Stone Co.	Bucyrus Plant	Holmes	Devonian	crushed stone—riprap, flux stone, commercial building, railroad ballast, extenders, fillers: aglime	Cd-1
American Aggregates Corp.	Fort Jefferson #424	Butler	Cedarville Dolomite (Silurian)	crushed stone—road construction/resurfacing	Dke-1
American Aggregates Corp.	Shawnee #225	Concord	Columbus & Delaware Limestones	crushed stone—road construction/resurfacing	Del-4
	Delaware Stone #227	Seioto	Columbus Limestone (Devonian)	crushed stone-road construction resurfacing	Del-33

Unformation for An-8 includes information for An-2 and An-11.

Also mine number has been assigned by the Division of Mines.

This mine was operated 1st through 3rd quarters 1991, by owners Stone Co., Inc., and 4th quarter by American Aggregates Corp.

1991 OHIO DIRECTORY OF LIMESTONE/DOLOMITE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY—Continued

Delaware Plant
Owens Stone Co., Inc.
Penry Stone Co.
Erie Blacktop Quarry
Sandusky Crushed Stone Co.
Wagner Quarries Co.
Blue Rock Limestone #427
Melvin Stone Co.
Columbus Limestone #221
Marble Cliff #224
Hilliard Plant #1
Beavercreek Limestone #426
Cedarville Limestone #425
Fairborn Limestone #431
Southwestern Portland Cement Co.
King Limestone, Inc.
Findlay Plant
Tarbox-McCall Stone Co.
Hardin Quarry Co., Inc.
Highland Stone Division
Marshall Quarry, Inc.
Ohio Asphaltic Limestone Corp.

Hs-67	Jkn-SH6	Jkn-367	Le-A ⁶	Lg-8	Lgn-17	Lgn-17	Lgn-15	Lgn-2	Ls-3	Ls-1	Ls-2	Mg-608	Mg-EM6	Mg-54	Mg-629	Mn-2	Mn-3	Mn-1	Mr-2	Mr-1	Mi-502
crushed stone—road construction/resurfacing	crushed stone—road construction/resurfacing	crushed stone—road construction/resurfacing, railroad ballast	crushed stone—riprap, road construction/ resurfacing, unspecified, aglime	crushed stone—road construction/resurfacing, commercial building	crushed stone—road construction/resurfacing	crushed stone—unspecified	crushed stone—riprap, stone for portland cement concrete, road construction/resurfac- ing, commercial building	crushed stone—riprap, stone for asphaltic concrete, road construction/resurfacing	crushed stone—riprap, road construction/ resurfacing	crushed stone—road construction/resurfacing	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, other, aglime	crushed stone—unspecified; stone for portland Mg-608 cement manufacture; aglime	crushed stone—unspecified, stone for portland cement manufacture; aglime	crushed stone—stone for asphaltic concrete, other	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, farm use, drains	crushed stone—stone for asphaltic concrete, road construction/resurfacing	crushed stone—riprap, commercial building, railroad ballast, other; aglime	crushed stone—riprap, stone for portland cement concrete, road construction/resurfac- ing, dog/horse runs; aglime	crushed stone—unspecified	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, railroad ballast, other; aglime	crushed stone—riprap, road construction/ resurfacing
Putnam Hill limestone (Pennsylvanian)		Vanport limestone (Pennsylvanian)						Tymochtee Dolomite (Silurian)	Detroit River Group (Devonian)	Tymochtee Dolomite (Silurian)		Vanport limestone (Pennsylvanian)		Vanport limestone (Pennsylvanian)			Columbus & Delaware Limestones (Devonian)	Niagaran dolomite (Silurian)	Lockport & Guelph Dolomites (Silurian)	Niagaran dolomite (Silurian)	Brassfield Limestone (Silurian)
Hardy	Milton	Bloomfield	Washington	St. Albans	Perry	Perry	Richland	Richland	Sylvania	Waterville	Waynesfield	Poland	Poland	Springfield	Springfield	Marion	Grand Prairie, Marion	Grand	Dublin	Jefferson	Union
241 Plant	Sands Hill Strip #4	Waterloo-Zoar	Addington, Inc.	Alexandria Pit	Connolly Limestone #226	East Liberty Quarry	C. E. Duff & Son, Inc.	Northwood Stone & Asphalt Co.	Sylvania	Waterville	Maumee Quarry	Bessemer Pit	Carbon Pit	Honey Creek Stone Co.	Petersburg Stone Co.	J. M. Hamilton & Sons Co., Inc.	Marion Plant	Tri-County Limestone Co.	S & S Aggregate, Inc.	Celina Quarry	Gregory Stone
Holmes Limestone Co.	Sands Hill Coal Co., Inc.	Waterloo Coal Co., Inc.	Addington, Inc.	Alexandria Materials Co.	American Aggregates Corp.	Connolly Construction Co., Inc.	C. E. Duff & Son, Inc.	Northwood Stone & Asphalt Co.	The France Stone Co.		Stoneco, Inc.	E.M.A.I. Corp. (dba ESSROC Materials, Inc.)		Honey Creek Stone Co.	Petersburg Stone Co.	J. M. Hamilton & Sons Co., Inc.	National Lime & Stone Co.	Tri-County Limestone Co.	S & S Aggregate, Inc.	Stoneco, Inc.	Barrett Paving Materials, Inc.
Holmes	Jackson		Lawrence	Licking	Logan				Lucas			Mahoning				Marion			Mercer		Miami

"This mine was operated 1st through 3rd quarters 1991 by Owens Stone Co., Inc., and 4th quarter by American Aggregates Corp.
"See also Muskingam County."
"No mine number has been sestgred by the Division of Mines.
"This mine was operated January through April 1991 by Connolly Construction Co., Inc., and May through December by American Aggregates Corp.

1991 OHIO DIRECTORY OF LIMESTONE/DOLOMITE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY—Continued

1991 OHIC	1991 OHIO DIRECTORI OF LIMESTOTICES					Stoto
County	Name of operator	Name of mine or quarry	Township	Geological unit	Type and principal use	mine number
						MG 16
Miomi (cont.)	Gregory Stone Co. Inc.	Gregory Quarry	Union	7		01-10
IMPAILL (COLLE.)	Piqua Materials, Inc.	Piqua Minerals Division	Springcreek	Brassfield Limestone, Dayton & C. Laurel Dolomites (Silurian)	crushed stone—riprap, flux stone, road con-struction/resurfacing, industrial fillers; aglime	Mi-1
	C. F. Poeppelman, Inc.	C. F. Poeppelman, Inc.	Newberry	n)		Mi-10
,		Christman Quarry	Franklin	3	crushed stone—unspecified	Me-501
Monroe	Christman Quarty	Christman Quarry	Seneca	1	unspecified	MeC ⁸
		Bubol Quarry Inc	Seneca		crushed stone—other	Me-509
	Kubel Quarry, Inc.	Dhillineburg Limestone #421	Clay	Cedarville Dolomite (Silurian)	crushed stone—road construction/resurfacing	My-1
Montgomery	American Aggregates Corp.	Dayton Limestone #420	Madison		crushed stone—road construction/resurfacing	My-23
		Haber Heights Limestone #432	Van Buren	Cedarville Dolomite (Silurian)	crushed stone—road construction/resurfacing	My-32
	Southwestern Portland Cement Co.	Southwestern Portland Cement Co.	Wayne	upper Brassfield Limestone (Silurian)	stone for portland cement manufacture	My-58
;		Coal Hill	Meigs	Benwood limestone (Pennsylvanian)	crushed stone—road construction/resurfacing	Ne-C8
Muskingum	Central Ohio Coal Co. Chesterhill Stone Co.	Od IIII Plant #1	Newton		crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, railroad ballast, stone for portland cement manufacture, aglime	Mum-106
	ı		Rich Hill	Fishnot limestone (Pennsylvanian)	crushed stone—road construction/resurfacing	Gy-3099
	King Limestone, Inc.	King Limestone, Inc.	Nonte		stone for portland cement manufacture	Mum-24
	Midwest Portland Cement Corp.	Lyle Quarry	Newwin		mushed stone—road construction/resurfacing	Mum-269
	Salt Creek Materials, Inc.	Salt Creek Materials, Inc.	Perry	(definition in the state of the	cmished stone—road construction/resurfacing	Mum-104
	Sidwell Bros., Inc.	Sidwell Quarry	Newton	Waxville Linescond of the control of	and the state and construction/resurfacing	Ne-S ⁸
Noble	Sharon Stone Co.	Sharon Stone Co.	Noble	Fishpot limestone (Pennsylvanian)	crushed stone—unspecified	Ne-86
	Zerger's Quarry	Zerger's Quarry	Stock			00-1
Ottawa	GenLime Group, L.P.	GenLime Group, L.P.	Clay	Niagaran dolomite (Silurian)	crushed stone—road construction resurtating; lime (burned stone)—building, chemical and industrial	
	Edward Kraemer & Sons, Inc.	White Rock Quarry	Allen	Guelph Dolomite (Silurian)	crushed stone—riprap, flux stone, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, beach sand; aglime	0a-6
	Standard Lafarge	Marblehead	Danbury	Columbus Limestone (Devonian)	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building	0a-7
	Stoneco, Inc.	Rocky Ridge	Benton		crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, unspecified	Oa-14
Paulding	The France Stone Co.	Paulding	Crane	Tenmile Creek Dolomite (Devonian)	crushed stone—riprap, road construction/ resurfacing	Pg-7
				_		-

				_		_
Paulding (cont.)	Lafarge Corp.	Paulding Quarry	Crane	Detroit River Group & Dundee Limestone (Devonian)	stone for portland cement manufacture	Pg-1
	Stoneco, Inc.	Auglaize Quarry	Auglaize	Detroit River Group & Dundee Limestone (Devonian)	crushed stone—riprap, flux stone, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, railroad ballast, other; agline	Pg-2
Perry	Maxville Quarries, Inc.	Maxville Quarries, Inc.	Monday Creek	Maxville Limestone (Mississippian)	crushed stone—road construction/resurfacing	Py-235
		Maxville Quarries, Inc.	Monday Creek		crushed stone—road construction/resurfacing	Py-343
Pickaway	Melvin Stone Co.	Melvin Stone Co.	Реггу	Columbus Limestone (Devonian)	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, residential/farm use	Pky-4
Pike	Latham Limestone, Inc.	Latham Limestone, Inc.	Mifflin	Greenfield Dolomite (Silurian)	crushed stone—riprap, stone for asphaltic concrete, road construction/resurfacing, aglime	Pke-13
Preble	Wysong Stone Co.	Wysong Stone Co.	Twin		crushed stone—riprap, road construction/ resurfacing, ice control; dimension stone	Pre-5
Putnam	Putnam Stone Co.	Putnam Stone Co.	Pleasant, Riley	Silurian	crushed stone—riprap, stone for portland cement concrete, road construction/ resurfacing	Pm-2
Sandusky	Gottron Bros. Co.	Gottron Bros. Co.	Sandusky	Niagaran dolomite (Silurian)	crushed stone—stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, fill	Sy-5
	Martin Marietta Magnesia Specialties, Inc.	Woodville Quarry	Woodville	Guelph Dolomite (Silurian)	crushed stone—riprap, flux stone; lime (burned stone)—chemical and industrial	Sy-1
	Steetley Quarry Products U.S., Inc., Ohio Lime Co.	Woodville Plant	Woodville	Silurian	crushed stone—flux stone, stone for portland cement concrete, road construction/resurfacing; aglime; lime (burned stone)—chemical and industrial, other	Sy-3 ¹⁰
Seneca	The France Stone Co.	Bloomville	Bloom	Columbus & Delaware Limestones (Devonian)	crushed stone—riprap, road construction/ resurfacing; aglime	Sa-3
		Flat Rock	Thompson	Columbus & Delaware Limestones (Devonian)	crushed stone—riprap, road construction/ resurfacing; aglime	Sa-1
	Maple Grove Stone Co. (dba M & B Asphalt Co.)	Maple Grove Stone Co.	Liberty		crushed stone—stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building	Sa-2
	North Shore Stone Quarries, Inc.	North Shore Stone Quarries, Inc.	Thompson		crushed stone—riprap; dimension stone	Sa-8
Shelby	Miami River Stone Co.	Miami River Stone Co.	Orange	Cedarville Dolomite (Silurian)	crushed stone—riprap, road construction/ resurfacing, railroad ballast	Shy-6
	Sidney Sand & Gravel Co.	Rock Run Quarry	Washington		crushed stone—riprap	Shy-16
	Spring Creek Corp.	River Quarry	Clinton		crushed stone—commercial building	Shy-15
Stark	East Ohio Limestone Co.	East Ohio Limestone Co.	Lake	Putnam Hill limestone (Pennsylvanian)	crushed stone—road construction/resurfacing	Sk-663
Tuscarawas	Green Basin Coal, Inc.	Green Basin Coal, Inc.	Lawrence		crushed stone—unspecified	Ts-2024
	Kimble Clay & Limestone Co.	Kimble Clay & Limestone Co.	Dover	Vanport limestone (Pennsylvanian)	crushed stone—riprap, road construction/ resurfacing	Ts-1818
	L & M Mineral Co.	Spring	Mill, Warwick		crushed stone—riprap	Ts-1982
	Sugarcreek Clay & Limestone, Inc.	Sugarcreek Clay & Limestone, Inc.	Sugar Creek		crushed stone—road construction/resurfacing	Ts-1928
Union	Northwood Stone & Asphalt Co.	Rockhold Division	York		crushed stone—riprap, road construction, resurfacing; aglime	Un-1
8No mine nui	8No mine number has been assigned by the Division of Mines. 9See also Guernsey County	nes.				

No mme number has been assigned by the Division of Min 9See also Guernsey County.
¹⁰Information for SY-3 includes information for Sy-4.

1991 OHIO DIRECTORY OF LIMESTONE/DOLOMITE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY-Continued

mine number	Un-2	Vt-7	Vt-3	Vt-1	Vn-174	Vn-190	Hs-7911	Wd-5	Wd-1	9-pM	Wd-11	Wt-3	Wt-1	Wt-8
Type and principal use	crushed stone—riprap, other; aglime	crushed stone—unspecified	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, other; aglime	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, railroad ballast, driveway use	crushed stone—road construction/resurfacing; aglime	crushed stone—unspecified	crushed stone—road construction/resurfacing	crushed stone—riprap, road construction/ resurfacing; aglime	crushed stone—unspecified	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, other; aglime	crushed stone—riprap, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, other	crushed stone—stone for asphaltic concrete, road construction/resurfacing	crushed stone—riprap, flux stone, commercial building, railroad ballast, extenders, fillers; aglime; lime (burned stone)—chemical and industrial	crushed stone—riprap, flux stone, stone for portland cement concrete, stone for asphaltic concrete, road construction/resurfacing, commercial building, railroad ballast, manufacturing sand; aglime
Geological unit	Columbus Limestone (Devonian)	Tymochtee Dolomite (Silurian)		Tymochtee Dolomite (Silurian)			Putnam Hill limestone (Pennsylvanian)		Lockport & Salina Dolomites (Silurian)		Greenfield & Lockport Dolomites (Silurian)	Bass Islands Group (Silurian)	Silurian	Greenfield & Guelph Dolomites (Silurian)
Township	Millcreek	Ridge	Union	Washington	Clinton	Elk	Franklin	Milton	Perry	Perrysburg	Portage	Pitt	Crawford	Crawford
Name of mine or quarry	Union Limestone Plant	Ridge Township Quarry	Scott Quarry	Delphos Quarry	Sands Hill	Quality Stone Co.	Wayne Mines	Custar	MacRitchie Materials, Inc.	Lime City Quarry	Portage Quarry	McCarthy Stone Quarry	Carey Plant	Wyandot Dolomite, Inc.
Name of operator	Union Aggregates Co.	Ridge Township Quarry	Stoneco, Inc.	Suever Stone Co., Inc.	G & M Supply, Inc. (dba Clinton Stone, Inc.)	Quality Stone Co.	Holmes Limestone Co.	The France Stone Co.	MacRitchie Materials, Inc.	Stoneco, Inc.		McCarthy Stone Quarry	National Lime & Stone Co.	Wyandot Dolomite, Inc.
County	Union (cont.)				Vinton		Wayne	Wood				Wyandot		

¹¹All sales and production are from Wayne County.

1991 SAND AND GRAVEL COMPANIES WITH SALES OR PRODUCTION

Company	No. of	Sales	Production	Contraction	No. of	Sales	Production
Company	operations	(tons)	(tons)	Company	operations	(tons)	(tons)
Agg Rok Materials, Div. of Wapak Sand	1	470 5 41	400 700	Flesher Sand & Gravel, Inc.	1	35,304	35,304
& Gravel Co. William Albert, Inc.	1 1	470,541 27,676	463,782 29,488	Foureman's Sand & Gravel, Inc. Frye Sand & Gravel, Inc.	1 1	35,595 160	28,966 160
Alden Sand & Gravel Co.	1	12,443	12,443		1	3,659	3,659
Alexandria Materials Co.	ī	4,788	1,482		î	209,544	222,606
Allgeier & Son, Inc.	1	38,500	38,500		_		
American Americantes Com	10	0.710.000	0 551 500	Gerken Materials, Inc.	1	182,190	182,190
American Aggregates Corp. American Sand & Gravel	19	8,719,229 123,400	8,551,768 123,400	Gibson Sand & Gravel Co. David B. Good	1 1	832 900	832 900
Apache Aggregate & Paving Co.	î	80,830	69,087	Goodwin Sand & Gravel, Inc.	1	96,150	77,500
Ashcraft Sand & Gravel, Inc.	1	76,741	76,741	The Gravel Co.	1	83,346	83,346
Atlantic Investment Co.	1	177,276	177,276	Conse Onles Potting Products Inc	1	7 110	7.500
Atlas Towing Co.	1	25,859	25,859	Green Oaks Potting Products, Inc. Gregory Materials Co.	1	7,113 33,272	7,500 33,272
Aurora Sand & Gravel, Inc.	ı î	84,900		H. T. Griffin Excavating, Inc.	î	78,300	78,300
B & D Paving Co.	1	8,450	8,450	Grimes Excavating	1	2,130	2,130
Baker Sand, Inc.	1	628,543		H & H Utilities Co.	1	8,474	8,474
Barrett Paving Materials, Inc.	1	43,000	43,000	Harrison Sand & Gravel Co.	1	65,507	57,887
Beaver Creek Resources, Inc.	1	4,459	4,459	Haubeil & Sons Asphalt & Materials,	_	00,001	01,001
Beck Sand & Gravel, Inc.	1	311,925	311,925	Inc.	1	33,885	33,885
Becky Lane Trucking, Inc.	1	32,988	32,988		1	233,131	233,131
Paul D. Beery Trucking Co. Benco Leasing, Inc.	1 1	8,572 25,526	4,878 43,476	Heiser Sand & Gravel Paul N. Herdman	1 1	30,570 8,244	10,023 8,244
Deneo Deasing, Inc.		20,020	40,470	1 au IV. Heruman	1	0,244	0,244
Big Walnut Sand & Gravel, Inc.	1	15,067	15,067	Hillsdale Sand & Gravel, Inc.	1	20,909	0
Black Top Contracting, Inc.	1 1	17,906	17,906		1	380,674	380,674
E. E. Blair Construction Co. Timothy L. Bolduc	1 1	125,000 87,086	120,793 45,086		2	857,865	802,773
Bolin & Bartley, Inc.	2	60,127	54,145	dba Enon Washed Sand & Gravel Co.	1	219,785	255,581
, , , , , , , , , , , , , , , , , , ,				Hocking Valley Concrete, Inc.	ĩ	74,000	72,730
Elmer Borchardt, Inc.	1	312	0	11771): A 11 M		0.070	0.050
D. H. Bowman & Sons, Inc. Boyd Gravel Co.	1 1	39,124 171,729	48,124 267,145	William A. Hoffman, Jr. Tom Hollinger Excavating	1 1	2,678 1,391	2,678 1,391
Briggs Sand & Gravel, Inc.	1	9,243	9,343	Hugo Sand Co.	î	244,662	244,662
Broadway Sand & Gravel, Inc.	1	38,976	38,976	Humphrey Farms	1	185	185
Broshear Contractors, Inc.	1	7,524	7,524	Indian Creek Sand & Gravel Co.	1	15,719	15,719
Karl Brugmann Sand & Gravel, Inc.	1	88,520	79,554	J. P. Sand & Gravel Co.	1	389,332	389,332
Oscar Brugmann Sand & Gravel, Inc.	î	368,609	389,500	Jarrett Sand Co.	î	4,508	4,508
James Bunnell, Inc.	3	497,112	497,112	Jefferson Materials Co.	1	235,166	218,677
Burlington Sand & Gravel Co.	1	7,904	7,904	Johnson Rd. Sand & Gravel, Inc.	1	39,936	39,936
Canton Aggregate, Div. of Central Allied				Jones Sand & Gravel Co.	1	14,000	14,000
Enterprises, Inc.	2	573,070	573,070	Joseph Sand & Gravel	1	10,420	10,420
Cedar Heights Clay Co., Division of			***	Karg Sand & Gravel Co.	1	12,300	12,300
Resco Products, Inc. Charlestown Sand & Gravel, Inc.	1 1	518 25,495	518 25,495	Keener Sand & Clay Co. Kelly Coal Co.	1	1,043 1,449	1,043
Chesterhill Stone Co.	2	261,517	269,046	Kilbarger Construction, Inc.	1	4,250	3,900
Chesterville Sand & Gravel Co., Inc.	1	121,016	121,016				
Cl. 11: 41 . C. 1 . C . 1 . C		100 004	101.040	Kinsman Sand & Gravel Co.	1	138,140	104,635
Chillicothe Sand & Gravel Co. Cochran Transportation Services, Inc.	1 1	166,224 10,456		Kipp's Gravel Co., Inc. Kirby's Sand & Gravel, Inc.	1 1	113,644 42,929	113,644 42,929
Cooper Sand & Gravel	1	6,070		T & K Kuhnle Co.	i	115,762	115,762
Coprolite Sand & Gravel Corp.	1	10,276	13,000	L & I Natural Resources, Inc.	2	129,997	128,134
Crates Excavating	1	1,266	1,266	I & M Everystone Inc	1	6.640	6 640
Cremeans Concrete & Supply	1	6,075	6,075	L. & M. Excavators, Inc. Lake Hope Asphalt, Inc.	1	6,640 41,787	6,640 40,772
R. A. Cruise Sand & Gravel, Inc.	î	70,011	60,625	Lakeside Sand & Gravel Co.	1	248,440	222,295
D & D Sand Bank	1	1,680	1,680	Craig E. Lammert	1	55	1,500
D & W Sand & Gravel	1 1	6,353	6,353	Lancaster Sand & Gravel Co.	1	399,084	399,084
Darby Gravel	1	6,360	6,360	Larkin Sewer Contractors, Inc.	1	4,589	5,300
Demmy Construction, Inc.	1	42,007	42,007	Lazy Acre Farms, Inc.	1	33,040	33,040
Demmy Sand & Gravel	1	7,215	7,215	Bertha A. Leonard	1	250	250
A. J. Diana Sons, Inc. Dingledine Basic Materials, Inc.	1 1	9,844 58,509	9,844 58,509	Lerkis Asphalt Paving Co., Inc. & Subsidiary	1	100	100
Don's Dozer Service	1	1,583	1,583	Carroll Lifer Excavating, Inc.	1	2,445	2,445
					1		
Dravo Basic Materials Co., Inc. Dry Creek Gravel Co.	5 2	2,191,255 660,400	3,390,555 660,400	Loxley Aggregates, Inc. Luburgh, Inc.	1 1	440 250	381 250
C. E. Duff & Son, Inc.	2	92,200	92,200	M. & G. Supply Co.	1	57,101	57,101
Eaton Sand & Gravel Co.	1	1,500	1,500	Donald Martin Contracting	1	296	296
Elm Spring Farm	1	5,544	5,544	Mason's Sand & Gravel Co.	1	68,818	68,818
Erie Blacktop, Inc.	1	5,194	4,168	Massillon Materials, Inc.	1	76,718	76,718
Erie Sand & Gravel Co.	1 dredger	61,562	61,562		1	290,623	245,378
Feikert Sand & Gravel, Inc.	1	81,453	81,453	Maumee Haulers & Excavating, Inc.	1	62,741	62,741
Fenner Sand & Gravel, Inc.	1	188,000	188,000	Mecco, Inc.	1	178,328 126,310	178,328
Fleckenstein Farm Gravel Pit	1	4,552	4,552	Mechanicsburg Sand & Gravel, Inc.	1	120,010	111,293

1991 SAND AND GRAVEL COMPANIES WITH SALES OR PRODUCTION—Continued

Company	No. of operations	Sales (tons)	Production (tons)	Company	No. of operations	Sales (tons)	Production (tons)
Meigs County Commissioners Menuez Bros. Sand & Gravel, Inc. Mesenburg Bros., Inc. Mickley Gravel Co. Miller Bros. Construction, Inc.	1 1 1 1	12,600 164,617 16,117 3,358 1,000	12,600 164,617 16,117 87 1,000	Sco-Mac Development Seaway Sand & Stone, Inc. Seville Sand & Gravel, Inc. Shamrock Gravel Co. The Shelly Co., Cox Gravel Division	1 2 1 1 3	5,400 136,372 328,488 433,198 199,487	5,400 136,372 328,488 433,198 339,180
Miller Bros, Gravel, Inc. H. M. Miller Construction Co. Miller Sand & Gravel Co. Miller Sand Co. Moore's Excavating Co.	1 1 1 1	195,082 666 3,525 5,951 83,130	179,028 666 3,525 5,951 76,844	R. W. Sidley, Inc. Sidney Sand & Gravel Co. Small's Sand & Gravel, Inc. Sober Sand & Gravel Co. Soehnlen Bros. Sand & Gravel Co.	2 2 1 1 1	112,850 188,355 280,586 1,700 50,432	108,850 188,355 280,586 1,700 50,432
Morrow Gravel Co. Muskingum River Gravel Co. National Aggregates, Inc. National Lime & Stone Co. Neer's Sand & Gravel	1 4 1 4 1	351,500 397,750 151,662 389,730 123,342	351,500 397,750 151,662 396,711 118,364	Solomon's Mines, Inc. Solon Excavators Sand & Gravel, Inc. Soltis Sand & Gravel Southern Ohio Aggregates, Inc. Spring Creek Corp.	1 2 1 2 2	21,238 334,175 4,112 4,500 289,998	21,238 334,175 4,112 4,500 289,998
Nelson Sand & Gravel, Inc. New Carlisle Sand & Gravel Co. Newton Asphalt Northern Ohio Materials, Inc. Northmont Sand & Gravel Co.	2 1 1 1 1	8,900 161 80,851 305,563 54,189	8,900 161 80,851 283,172 45,974	Spring Industries, Inc. Spring Run Farm & Gravel Springfield Sand & Gravel Co. Standard Lafarge Steven R. Steiner	2 1 1 3 1	403,714 13,626 376,609 1,228,654 3,964	461,500 13,626 376,609 1,168,222 3,964
North Ridge Materials Carl E. Oeder & Sons Sand & Gravel Olen Corp. Oneida Sand & Gravel, Inc. Osborne Materials Co.	1 1 3 1 1 dredger	42,213 408,609 1,849,708 79,091 112,012	34,778 408,609 1,879,405 65,337 112,012	Stewart & Reichman, Inc. Stillwater Sand & Gravel, Inc. Stocker Sand & Gravel Co. Stoneco, Inc. Sunshine Sand Co.	1 1 2 1 1	50,377 101,633 810,580 294,998 4,695	50,377 81,400 810,580 145,695 4,695
Oster Sand & Gravel, Inc. Ours Sand & Gravel Partin Sand & Gravel Penry Stone Co. Phillips Sand & Gravel	2 1 1 1 1	578,645 6,319 2,000 48,169 361,871	578,645 6,319 2,000 48,169 361,871	Takacs Excavating Teague Gravel Co., Inc. Tipp Stone Co., Inc. Robert Tripp Tri-State Asphalt Products	1 1 2 1 1	350 72,806 88,443 2,846 234,098	350 72,806 88,443 1,910 226,513
Portage Lakes Sand & Gravel Co. Prairie Lane Sand & Gravel Co. Precision Sand & Gravel Puskarich Limestone Co. Quality Ready Mix, Inc.	1 1 1 1	163,481 121,158 60,384 917 76,260	163,481 121,158 60,384 917 76,260	Trout Sand & Gravel Co. Tuffco Sand & Gravel, Inc. Union Aggregates Co. Union Slag Corp. Valley Materials Co.	$egin{array}{c} 1 \\ 1 \\ 1 \\ 2^2 \\ 1 \end{array}$	39,636 50,091 37,069 33,288 133,528	39,636 50,091 33,574 25,861 133,528
R & S, Inc. Rack Sand, Inc. Rainbow Sand & Gravel, Inc. Red Brush Peat Co. Richards & Son, Inc.	1 1 1 1 1 1	81,917 109,308 42,456 2,234 557,637	81,917 109,308 42,456 2,234	Van Wey Sand & Gravel, Inc. Ward Materials, Inc. Don Wartko Construction, Inc. Washington County Engineer Watson Gravel, Inc.	1 1 1 3	344,683 41,180 2,859 17,888 1,483,002	355,083 54,180 2,859 17,888 1,483,002
Richard Farms, Inc. Ries Sand & Gravel Riverside Sand & Gravel Co., Inc. Rogers Group, Inc., dba Norwalk	1 1 1	23,039 903 26,754	557,637 23,039 903 26,754	Weber Aggregates Weber Sand & Gravel, Inc. Weidle Sand & Gravel, Inc. Welch Sand & Gravel, Inc. Whitewater Aggregates, Inc.	$egin{array}{c} 1 \\ 1 \\ 2 \\ 3 \\ 1^3 \end{array}$	60,914 103,019 283,390 646,603 193,580	60,914 103,019 247,572 631,510 201,040
Sand & Gravel Rubber City Sand & Gravel Co. Rupp Construction, Inc. S & S Aggregate, Inc.	1 1 5	114,290 173,905 333,712 744,727	126,839 173,905 333,712 744,727	Mark Williams Blacktop Co., Inc. Wise Gravel Wysong Gravel Co. X L Sand & Gravel Xenia Sand, Gravel, & Asphalt Co.	2 1 2 1 1	8,389 6,000 223,094 82,500 9,760	36,671 6,000 223,094 82,500 2,884
G. M. Sader Excavating & Paving, Inc. Salt Creek Materials, Inc. Samco, Inc.	1 1 1	15,605 3,417 355,474	1,365 0 355,474	York Road Gravel Co. Young's Sand & Gravel Co. Zink Petroleum Corp., dba State Rte.	1 2	10,935 215,710	7,717 235,995
Sant Sand & Gravel, Inc. Michael B. Sayers Schloss Paving Co. Scioto Sand & Gravel	1 1 1 1	58,299 5,984 97,057 1,639	83,271 5,984 97,057 0	416 Sand & Gravel Zollinger Sand & Gravel Co.	1 1	197,524 113,582	197,524 113,582
Scioto Valley Resources	1	434,155	495,355	TOTAL: 239 companies	306	42,793,746	43,791,194

¹This operation was operated June through December 1991 by Sco-Mac Development and is not included in the total number of mines. ²One of these operations was operated 4th quarter 1991 by Coprolite Sand & Gravel Corp. and is not included in the total number of mines. ³This operation was operated May through December 1991 by American Aggregates Corp. and is not included in the total number of mines.

1991 OHIO DIRECTORY OF LAKE ERIE SAND AND GRAVEL DREDGERS

1991 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

County	Name of operator	Name of pit	Township	Type and principal use	State mine number
Allen	Ward Materials, Inc.	Ward Materials, Inc.	Monroe	sand—asphaltic concrete, filtration, foundry gravel—building, unspecified	An-15
Ashland	Bolin & Bartley, Inc. David B. Good	Simington Rd. David B. Good	Montgomery Jackson	gravel—building sand—bank run	Ald-16 Ald-G1
	Ries Sand & Gravel	Ries Sand & Gravel	Mohican	gravel—bank run sand—building, road construction/resurfacing	Ald-9
	Young's Sand & Gravel Co.	Young's Sand & Gravel Co.	Green	gravel—building, road construction/resurfacing sand—building, road construction/resurfacing, other	Ald-7
		Young's Sand & Gravel Co.	Green	gravel—buiding, road construction/resurfacing, other sand—building, road construction/resurfacing, other gravel—building, road construction/resurfacing, other	Ald-15
Ashtabula	Frye Sand & Gravel, Inc. Kinsman Sand & Gravel Co.	Frye Sand & Gravel, Inc. Kinsman Sand & Gravel Co.	Denmark Wayne	gravel—fill sand—unspecified	Asa-10 Asa-17
	Nelson Sand & Gravel, Inc.	Nelson Sand & Gravel, Inc.	Kingsville	gravel—unspecified sand—building	Asa-12
	North Ridge Materials	Nelson Sand & Gravel, Inc. North Ridge Materials	Kingsville, North Kingsville	gravel—building sand—building, asphaltic concrete	Asa-N ¹ Asa-18
	R. W. Sidley, Inc.	Conneaut Pit	Kingsville	gravel—building sand—building sand—building, portland cement concrete, filtration, ice control gravel—building, portland cement concrete, road construction/resurfacing, other	Asa-15
Athens	Black Top Contracting, Inc.	Black Top #1	Rome	sand-asphaltic concrete, road construction/resurfacing	As-588
	Cochran Transportation Services, Inc.	Cochran Transportation Services, Inc. Dover	Dover	gravel—asphaltic concrete, road construction/resurfacing sand—unspecified	As-595
	Lake Hope Asphalt, Inc.	Lake Hope Asphalt, Inc.	York	grave—unspecined sand—asphaltic concrete, road construction/resurfacing, other	As-1161
	Weber Aggregates	Weber Aggregates	Rome	gravel —aspecified gravel—unspecified gravel—unspecified	As-W1
Auglaize	Joseph Sand & Gravel National Lime & Stone Co.	Joseph Sand & Gravel Wapakoneta Plant	Union Union	gravel—fill sand—building, portland cement concrete	Ae-23 Ae-30
	Quality Ready Mix, Inc.	Quality Ready Mix, Inc.	Pusheta	gravel—portland cement concrete sand—portland cement concrete gravel—portland cement concrete	Ae-16
Belmont	Tri-State Asphalt Products	Tri-State Asphalt Products	Mead	sand—portland cement concrete, asphaltic concrete gravel—portland cement concrete, asphaltic concrete, road construction/resurfacing, fill, ice control	Bt-74
Butler	American Aggregates Corp.	Fairfield #711	Fairfield	sand—road construction/resurfacing gravel—road construction/resurfacing	Br-35
		Hamilton #710	St. Clair	sand—road construction/resurfacing gravel—road construction/resurfacing	Br-5
No mine num	No mine number has been assigned by the Division of Mines.				

1991 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY—Continued

County	Name of operator	Name of pit	Township	Type and principal use	State mine number
Butler	Broshear Contractors, Inc.	Ross Township Gravel	Ross	sand—unspecified	Br-48
(cont.)	Dingledine Basic Materials, Inc.	Dingledine Basic Materials, Inc.	Milford	graver—unspectured sand—building, portland cement concrete gravel—building, portland cement concrete, road construction/	Br-50
	Dravo Basic Materials Co., Inc.	Ross Plant	Ross	resurfacing, futration, other sand—road construction/resurfacing mayol—road construction/resurfacing	Br-29
	The Gravel Co.	New Miami Pit	St. Clair	gravel—inspecified seavel—inspecified	Br-3
	Indian Creek Sand & Gravel Co. Mecco, Inc.	Indian Creek Sand & Gravel Co. Mecco, Inc.	Ross Lemon	gravel—building, road construction/resurfacing, oversize gravel—building, road construction/resurfacing, fill to the the construction/resurfacing fill to the the three construction of the three constructions and the three constructions are the three constructions and the three constructions are the construction of the constr	Br-40 Br-15
	Shamrock Gravel Co.	Shamrock Gravel Co.	Madison	gravel—building, road construction/resurfacing, outer sand—other	Br-52
	Southern Ohio Aggregates, Inc.	Southern Ohio Aggregates, Inc.	St. Clair	gravei—outer sand—unspecified amount unspecified	Br-S2
	Watson Gravel, Inc.	Watson Pit	Fairfield	gravet—unspectured sand—building, portland cement concrete, asphaltic concrete, fill gravet—building, portland cement concrete, road construction/	Br-47
	Weidle Sand & Gravel, Inc.	Weidle Sand & Gravel, Inc.	Madison	resurfacing and—building, unspecified	Br-6
	Welch Sand & Gravel, Inc.	Schlichter Pit	Fairfield	gravel—building gravel—building	Br-38
Carroll	National Aggregates, Inc.	National Aggregates, Inc.	Brown	sand—building, unspecified	CI-N ²
	Oneida Sand & Gravel, Inc.	Oneida Sand & Gravel, Inc.	Brown	glaver—building, unspections sand—road construction/resurfacing	Cl-204
	Puskarich Limestone, Inc.	Harlem Springs	Lee	graver road construction sand—farmers tailings	Cl-183
Champaign	American Aggregates Corp.	Urbana #410	Urbana	sand—road construction/resurfacing	Cpn-1
	D & W Sand & Gravel	D & W Sand & Gravel	Union	graver-10at construction according graver-10at construction according graver-10at construction according graves-10at cons	Cpn-21
	Mechanicsburg Sand & Gravel, Inc.	Mechanicsburg Sand & Gravel, Inc.	Union	Branch anapolitical and anapolitical anapolitica anapolitical anapolitica anapolitica anapolitica anapolitica anapolitica anapolitica anapolitica anapolitica anapolitica anapoli	Cpn-22
	Moore's Excavating Co.	Moore's Excavating Co.	Salem	sand—building gravel—building	Cpn-20
Clark	American Aggregates Corp.	Fairborn #413	Bethel	sand—road construction/resurfacing oravel—road construction/resurfacing	Ck-13
	Barrett Paving Materials, Inc.	Barrett Paving Materials, Inc.	Mad River	sand—asphaltic concrete	Ck-B ²
	Demmy Construction, Inc.	Kieffer Pit	Mad River	sand—building oravel—building	Ck-501
	Demmy Sand & Gravel	Demmy Sand & Gravel	Mad River	Staro Journals Sand—building manyroad construction/resurfacing	Ck-502
	Hilltop Basic Resources, Inc. (dba Enon Washed Sand & Gravel Co.)	Enon Washed Sand & Gravel Co.	Bethel	graver—road consequences are asphaltic concrete sand—building, portland cement concrete, asphaltic concrete, gravel—building, portland cement concrete, asphaltic concrete, road contraction/resurfacing fill base	Ck-3
	Hilltop Basic Resources, Inc.	Fairborn Aggregate Plant	Bethel	sand—building, portland cement concrete, asphaltic concrete gravel—nortland cement concrete, asphaltic concrete, fill, base	Ge-43
	Springfield Sand & Gravel Co.	Springfield Sand & Gravel Co.	Springfield	sand—building, portland cement concrete, asphaltic concrete, road construction/resurfacing, masonry, fill gravel—building, portland cement concrete, asphaltic concrete, road construction/resurfacing, filtration, fill	Ck-25
Clermont	Kipp's Gravel Co., Inc.	Kipp's Gravel Co., Inc.	Stonelick	sand—unspecified gravel—unspecified	Ct-7
		_			-

Ca-855 Ca-L ² Ca-K ² Ca-881	Cn-828	Cd-3 Dke-4	De-2 Del-S ²	Ee-18 Ee-29 Ee-5 Ee-24 Ee-28	Fd-14 Fd-13	Fn-36 Fn-23 Fn-6 Fn-14	Fn-52 Fn-54 Fn-11 Fn-43	Fn-58
sand—bank run gravel—bank run sand—other gravel—unspecified	9 9 9 8	gravel—building, portland cement concrete, road construction/ resurfacing, unspecified sand—unspecified gravel—unspecified sand—unspecified gravel—nspecified gravel—farm ballset	sand—road construction/resurfacing gravel—road construction/resurfacing gravel—sewer lines, fill	gravel—building sand—fill sand—foundry sand—bank run sand—fill	sand—unspecified gravel—unspecified sand—building, asphaltic concrete, road construction/resurfacing gravel—building, asphaltic concrete	sand—building, portland cement concrete, asphaltic concrete, gravel—building, portland cement concrete, asphaltic concrete, road construction/resurfacing sand—road construction/resurfacing gravel—road construction/resurfacing sand—road construction/resurfacing gravel—road construction/resurfacing gravel—road construction/resurfacing gravel—road construction/resurfacing gravel—unspecified	sand—building gravel—building sand—building sand—building sand—building gravel—building sand—building sand—building sand—building, saphaltic concrete	resurfacing sand—building, portland cement concrete, asphaltic concrete, road construction/resurfacing gravel—building, portland cement concrete, asphaltic concrete, road construction/resurfacing sand—unspecified gravel—unspecified
Salem Salem Middleton	Franklin Keene Bethlehem	Jefferson Greenville Harrison	Farmer Scioto	Margaretta Groton Huron Milan Margaretta	Berne Berne	Franklin Hamilton Marion Hamilton, Madison	Hamilton Blendon Hamilton Brown	Hamilton Hamilton
Beaver Creek Resources, Inc. Craig E. Lammert Shell X L. Sand & Gravel	William Albert, Inc. Apache Aggregate & Paving Co. Boyd Gravel Co.	Gibson Sand & Gravel Co. Foureman's Sand & Gravel, Inc. Hollinger Gravel Plant	Hillsdale Sand & Gravel, Inc. Michael B. Sayers	Elmer Borchardt, Inc. Jarrett Sand Co. Huron Plant Mesenburg Bros., Inc. Miller Sand Co.	Paul D. Beery Trucking Co. Lancaster Sand & Gravel Co.	Agg Rok Materials Lockbourne #213 Columbus #210 Big Wahut Sand & Gravel Co.	J. F. Sand & Gravel Co. Westerville Industrial Park Mason's Sand & Gravel Co. Hilliard Plant #1	Columbus Plant #3 Plant #1
Beaver Creek Resources, Inc. Craig E. Lammert Kelly Coal Co. X L. Sand & Gravel	William Albert, Inc. Apache Aggregate & Paving Co. Boyd Gravel Co.	Gibson Sand & Gravel Co. Foureman's Sand & Gravel, Inc. Tom Hollinger Excavating	Hillsdale Sand & Gravel, Inc. Michael B. Sayers	Elmer Borchardt, Inc. Jarrett Sand Co. Keener Sand & Clay Co. Mesenburg Bros., Inc. Miller Sand Co.	Paul D. Beery Trucking Co. Lancaster Sand & Gravel Co.	Agg Rok Materials (Div. of Wapak Sand & Gravel Co.) American Aggregates Corp. Big Walnut Sand & Gravel Co.	J. F. Sand & Gravel Co. L. & M. Excavators, Inc. Mason's Sand & Gravel Co. Olen Corp.	S & S Aggregate, Inc.
Columbiana	Coshocton	Crawford Darke	Defiance Delaware	Erie	Fairfield	Franklin		2No mine numbe

1991 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY—Continued

State mine number	Ga-507	Ga-626 Ga-O ⁴	Gea-29	Gea-TK4	Gea-40	Gea-9	Gea-35	Ge-32	Ge-33	Ge-42	Ge-45	Ge-40 Ge-36	Ge-38	Ge-10	Hmn-AS4	Hmn-37	Hmn-696	Hmn-AAC4	Hmn-54 Hmn-50	Hmn-B4	Hmn-59	Hmn-117	Hmn-5	Hmn-46	Hmn-17
Type and principal use	sand—landscaping, sports surface	sand—fill, bank run sand—unspecified gravel—unspecified	sand—building, portland cement concrete	gravet – road consultation in action, oversize sand—unspecified	graver—mispecinieu sand—building sand building	gravet—bulating	gravet—cains run sand—building, road construction/resurfacing, nursery use gravet—building, road construction/resurfacing, filtration	sand—road construction/resurfacing	gravel—road construction/resurfacing	gravel—road construction resurfacing sand—road construction/resurfacing	gravel—road construction resultating sand—building, portland cement concrete, asphaltic concrete	gravel—portrand cement concrete, aspiratuc concrete, iiii, base gravel—pit run sand—unspecified	gravel—unspectived sand cement concrete, asphaltic concrete, fill gravel—building, portland cement concrete, road construction, gravel—building, portland cement concrete, road construction.	resurfacing sand—building gravel—building	sand—building	graver—bunung sand—road construction/resurfacing	graver—road construction/resurfacing sand—road construction/resurfacing grand and construction/resurfacing	graver—road construction/resurfacing	gravel—roda construction resunating gravel—building sand—other	gravel other sand—other	graver—outer sand—other	Blaver-outer graver-road construction/resurfacing, filtration	graver—road construction/resurfacing	graver—road construction resultating	gravel—unispetures assistant concrete, asphaltic concrete, sand-building, portland cement concrete, road construction/resurfacing, filtration, ice control gravel—building, portland cement concrete, road construction/resurfacing, filtration
Township	Springfield	Addison Ohio	Burton, Newbury	Auburn	Auburn	Parkman	Newbury	Beaver Creek	Beaver Creek	Spring Valley	Bath	Spring Valley Beaver Creek	Spring Valley	Xenia	Whitewater	Harrison	Harrison	Whitewater	Whitewater Harrison	Whitewater	Whitewater	Anderson	Symmes	Whitewater	Harrison
Name of pit	Gallia Red Sand	Cremeans Concrete & Supply Ours Sand & Gravel	Haueter Sand & Gravel, Inc.	T & K Kuhnle Co.	Trethewey	Soltis Sand & Gravel	Teague Gravel Pit	Haines Rd. #419	Xenia #414	Spring Valley Gravel #434	Fairborn Aggregate Plant	Donald Martin Contracting Phillips Sand & Gravel	Spring Valley	Xenia Sand, Gravel, & Asphalt Co.	Allgeier & Son, Inc.	Harrison #712	Whitewater Gravel #715	Kilby Rd. #713	Ashcraft Sand & Gravel, Inc. James Bunnell, Inc.	James Bunnell, Inc.	James Bunnell, Inc.	Newtown Plant	Camp Dennison Plant	Eaton Sand & Gravel Co.	Harrison Sand & Gravel Co.
Name of operator	Cedar Heights Clay Co.	Div. of Kesco Products, Inc. Cremeans Concrete & Supply Ours Sand & Gravel	Haueter Sand & Gravel, Inc.	T & K Kuhnle Co.	Solon Excavators Sand & Gravel, Inc.	Soltis Sand & Gravel	Teague Gravel Co., Inc.	American Aggregates Corp.			Hilltop Basic Resources, Inc.	Donald Martin Contracting Phillips Sand & Gravel	Watson Gravel, Inc.	Xenia Sand, Gravel, & Asphalt Co.	Allgeier & Son, Inc.	American Aggregates Corp.			Ashcraft Sand & Gravel, Inc. James Bunnell, Inc.			Dravo Basic Materials Co., Inc.		Eaton Sand & Gravel Co.	Harrison Sand & Gravel Co.
County	Gallia		Geauga					Greene							Hamilton										

Hmn-67	Hmn-10	Hmn-60	Hmn-48	Hmn-42	Hmn-696	Hdn-C4	Hy-5	Hg-262	Hg-329 Hg-301	Hg-328	Hs-511	Hs-J4	Hs-82	Hs-96	Hrn-16	Hrn-1	Kx-7	Kx-5	Kx-16	Kx-13	Kx-3	Kx-15	Lke-7
sand—unspecified	graver—unspectived	grave—unispended spending concrete, asphaltic concrete, fill gravel—building, portland cement concrete, road construction/	resurfacing sand—building	gravel—bunding gravel—building gravel—hilding	gaver-ounning sand-unspecified gravel-unspecified	gravel—building	sand—asphaltic concrete	sand—building, portland cement concrete, fill gravel—portland cement concrete, road construction/resurfacing,	nitration, fill gravel—road construction, fill sand—unspecified gravel—unspecified	sand—fill gravel—fill	sand—building, portland cement concrete gravel—building, portland cement concrete, asphaltic concrete,	road construction/resurfacing, hitration sand—unspecified	gravel—portland cement concrete, asphaltic concrete, ice control gravel—portland cement concrete, asphaltic concrete, road con-	struction resurfacing sand—unspecified gravel—unspecified	sand—portland cement concrete, fill		sand—portland cement concrete, asphaltic concrete, unspecified gravel—asphaltic concrete, road construction/resurfacing,	unspecified and—unspecified	glaver—unispenner state asphaltic concrete sand—building, portland cement concrete, asphaltic concrete gravel—building, portland cement concrete, asphaltic concrete,	road construction/resurtacing and—unspecified amad—unspecified amade ama	Fraction of the construction/resurfacing, other grand construction/resurfacing other	graver—ourspecified gravel—unspecified	sand—building, portland cement concrete, asphaltic concrete, ice control gravel—building, other
Crosby	Mill Creek	Whitewater	Colerain	Crosby	Harrison	Taylor Creek	Liberty	Green	Falls Green, Starr	Falls	Salt Creek	Prairie	Hardy	Killbuck, Monroe	Norwalk	Norwalk	Clinton	Union	Morris	Middlebury	Clinton	Harrison	Painesville
Bertha A. Leonard	Rack Sand, Inc.	Harrison Pit	East Miami Pit	Fernald Pit	Whitewater Aggregates, Inc.	Crates #2	Gerken Materials, Inc.	Hocking Valley Concrete, Inc.	Kilbarger Construction, Inc. Muskingum River Gravel Co.	Robert Tripp	Feikert Sand & Gravel, Inc.	Jones Sand & Gravel Co.	Fair Pit	Spring Run Farm & Gravel	Erie Blacktop Sand & Gravel Pit	Norwalk Sand & Gravel	Goodwin Sand & Gravel, Inc.	Mickley Gravel Co.	Fredericktown Plant #2	Plant #13	Sant Sand & Gravel, Inc.	Small's Sand & Gravel, Inc.	Painesville Pit
Bertha A. Leonard	Rack Sand, Inc.	Watson Gravel, Inc.	Welch Sand & Gravel, Inc.		Whitewater Aggregates, Inc.	Crates Excavating	Gerken Materials, Inc.	Hocking Valley Concrete, Inc.	Kilbarger Construction, Inc. Muskingum River Gravel Co.	Robert Tripp	Feikert Sand & Gravel, Inc.	Jones Sand & Gravel Co.	Menuez Bros. Sand & Gravel, Inc.	Spring Run Farm & Gravel	Erie Blacktop, Inc.	Rogers Group, Inc. (dba Norwalk Sand & Gravel)	Goodwin Sand & Gravel, Inc.	Mickley Gravel Co.	Olen Corp.	S & S Aggregate, Inc.	Sant Sand & Gravel, Inc.	Small's Sand & Gravel, Inc.	R. W. Sidley, Inc.
						Hardin	Henry	<i>p</i> 0			Holmes				Huron		Knox						Lake

4No mine number has been assigned by the Division of Mines.

"See also Clark County.

"She also Chark County.

"This mine was operated January through April 1991 by Whitewater Aggregates, Inc., and May through December by American Aggregates Corp.

"Information for Hmn-11 includes information for Hmn-70

1991 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY—Continued

State mine number	Le-430 Le-426 Le-445	Lg-8	Lg-2	Lg-DC ⁸	Lg-31	Lg-10	Lg-38	Lgn-40	Lgn-36 Lgn-31	Lgn-M ⁸	Lgn-6	Ls-AI8	Ls-TB ⁸ Ls-G ⁸	Ls-26 Ls-SS ⁸ Ls-13	Mdn-11	Mg-632	Mn-4	Mn-16	Mn-10	Ma-20
Type and principal use	sand—fill sand—fill sand—fill	sand—building, portland cement concrete, road construction/ resurfacing, filtration	gravel—building sand—road construction/resurfacing	gravel—toau construction required. and—building, portland cement concrete, asphaltic concrete,	outer gravel—building, portland cement concrete, asphaltic concrete, road construction/resurfacing, other sand—portland cement concrete, asphaltic concrete gravel—building, nortland cement concrete, asphaltic concrete,	road construction/resurfacing, bank run sand—building, portland cement concrete, road construction/	resurfacing gravel—building, road construction/resurfacing, ice control sand—bank run gravel—bank run	sand—building	graver—bundang sand—filtration sand—building, portland cement concrete, filtration	sand—unspecified	graver—unspectition sand—unspecified gravel—unspecified	sand—unspecified mayol—unspecified	gravar—anapozinaca sand—building, other sand—unspecified	grave-unispectated sand—construction sand—construction	sand—unspecified gravel—unspecified	sand—building, filtration gravel—building, filtration	sand—portland cement concrete, unspecified	gravet—portgang centent concrees, anspections and—ball field	gravel—oversize	sand—building, asphaltic concrete, road construction/resurfacing, fill gravel—road construction/resurfacing
Township	Perry Perry Perry	St. Albans	Newark	Newton	Washington	Newton	Etna	Lake	Lake Washington	Monroe	Union	Spencer	Springfield Swanton	Monclova Springfield Swanton	Darby	Green	Prospect	Prospect	Prospect	Harrisville, Westfield
Name of pit	Becky Lane Sand Burlington Sand & Gravel Co. D & D Sand Bank	Alexandria Pit	Newark #214	Plant #3	Plant #2	Van Wey Sand & Gravel, Inc.	York Road Gravel Co.	Cooper Sand & Gravel	C. E. Duff & Son, Inc.	Miller Bros. Construction, Inc.	Neer's Sand & Gravel	Atlantic Investment Co.	Timothy L. Bolduc H. T. Griffin Excavating, Inc.	Eber Rd. Pit Stone Oaks Seaway Sand & Stone, Inc.	Tuffco Sand & Gravel, Inc.	Solomon's Mines, Inc.	Penry Stone Co.	Scioto Sand & Gravel	Prospect Sand & Gravel Plant	Baker Sand, Inc.
Name of operator	Becky Lane Trucking, Inc. Burlington Sand & Gravel Co. D & D Sand Bank		American Aggregates Corp.	Dry Creek Gravel Co.		Van Wey Sand & Gravel, Inc.	York Road Gravel Co.	Cooper Sand & Gravel	C. E. Duff & Son, Inc.	Miller Bros. Construction, Inc.	Neer's Sand & Gravel	Atlantic Investment Co.	Timothy L. Bolduc H. T. Griffin Excavating, Inc.	Maumee Haulers & Excavating, Inc. Seaway Sand & Stone, Inc.	Tuffco Sand & Gravel, Inc.	Solomon's Mines, Inc.	Penry Stone Co.	Scioto Sand & Gravel	Union Aggregates Co.	Baker Sand, Inc.
County	Lawrence	Licking						Logan				Lucas			Madison	Mahoning	Marion			Medina

Ma-22	Ms-205 Ms-295 Ms-301	Ms-298	Mi-3	Mi-6	Mi-8	Mi-4	Mi-501	Mi-504	Mi-12	Mi-9	Me-508	My-66	My-65	My-68	My-19	My-52	My-49	My-5510 My-5510	My-61	My-41	Mon-CS*	Mon-588	Mw-10
sand—building, asphaltic concrete, filtration, ice control gravel—building, asphaltic concrete, road construction/ resurfacing	gravel—road construction gravel—bank run sand—asphaltic concrete, road construction/resurfacing	gravel—asphaute concrete, to a construction resurracing sand—building, asphaltic concrete, road construction/resurfacing	sand—road construction/resurfacing	gravel—road construction/resurfacing	gravel—road construction/resurfacing sand—9	gravel—— sand—unspecified	gravel—unspecified sand—fill	gravel—nii sand—building, road construction/resurfacing	gravel—building, road construction/resurfacing sand—unspecified	gravel—unspecined gravel—building, farm use, driveway use, fill	sand—bank run gravel—bank run	sand—road construction/resurfacing	gravel—road construction/resurfacing sand—building	gravel—building sand—unspecified	gravel—unspecined sand—building, portland cement concrete, asphaltic concrete	gravel—portiand cement concrete, aspnantic concrete, iiii, oase sand—building, portland cement concrete, masonry gravel—building, portland cement concrete, road construction/	resurfacing, nitration, other sand—building sand—building	gravel—put run gravel—pit run sand—unspecified	graver—unspectied	gravel—unspeched sand—building, unspecified gravel—building, unspecified	sand—building, portland cement concrete, asphaltic concrete, road construction/resurfacing, filtration	gravel—building, portland cement concrete, asphaltic concrete, road construction/resurfacing, filtration sand—building, portland cement concrete, asphaltic concrete, road construction/resurfacing gravel—building, portland cement concrete, asphaltic concrete, road construction/resurfacing	sand—building, road construction/resurfacing gravel—building, road construction/resurfacing, filtration, ice control, landscaping
Harrisville	Letart Olive Letart	Letart	Concord	Springcreek	Monroe	Newton	Bethel	Union	Elizabeth	Newberry	Salem	Wayne	City of Moraine	Miami	Jefferson, Miami	Butler	Randolph	Wayne Wayne	Butler	German	Windsor	Windsor	Chester
Seville Sand & Gravel, Inc.	Apple Grove Plant Vivian Humphrey Meigs County Pit	Richards & Son, Inc.	Troy Gravel #433	Piqua Gravel #430	Tipp City Gravel #435	Woodville Concrete Corp.	New Carlisle Sand & Gravel Co.	Stillwater Sand & Gravel, Inc.	Troy	Wise Gravel	B & D Paving Co.	Rip Rap Road #416	Broadway Sand & Gravel, Inc.	H & H Gravel	West Carrollton Aggregate Plant	Miller Bros. Gravel, Inc.	Northmont Sand & Gravel Co.	Partin Sand & Gravel Sco-Mac Development	Meeker	Weidle Sand & Gravel, Inc.	Chesterhill Stone Co.	Plant #2	Chesterville Sand & Gravel Co., Inc.
Seville Sand & Gravel, Inc.	Dravo Basic Materials Co., Inc. Humphrey Farms Meigs County Commissioners	Richards & Son, Inc.	American Aggregates Corp.			Fenner Sand & Gravel, Inc.	New Carlisle Sand & Gravel Co.	Stillwater Sand & Gravel, Inc.	Tipp Stone Co., Inc.	Wise Gravel	B & D Paving Co.	American Aggregates Corp.	Broadway Sand & Gravel, Inc.	H&H Utilities Co.	Hilltop Basic Resources, Inc.	Miller Bros. Gravel, Inc.	Northmont Sand & Gravel Co.	Partin Sand & Gravel Sco-Mac Development	Tipp Stone Co., Inc.	Weidle Sand & Gravel, Inc.	Chesterhill Stone Co.		Chesterville Sand & Gravel Co., Inc.
	Meigs		Miami								Monroe	Montgomery									Morgan		Morrow

⁸No mine number has been assigned by the Division of Mines.

⁹Production only, no sales.

¹⁰This mine was operated January through May 1991 by Partin Sand & Gravel, and June through December by Sco-Mac Development.

1991 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY—Continued

State mine number	Mum-261	Mum-267	Mum-228	Mum-216	Mum-799	Mum-863	Mum-899	Pky-1	Pky-7	Pky-H ¹¹	Pky-R ¹¹	Pke-30	Pke-24	Pke-26	Pe-ASG ¹¹	Pe-84	Pe-50	Pe-15	Pe-9	Pe-17	Pe-45	Pe-96	Pe-89	Pe-56
Type and principal use	sand—unspecified	graver—mispecinea sand—fill 	gravel—un sand—unspecified	gravel—unspectue sand—road construction/resurfacing	gravel—four consultations and and analysis concrete, sand—building, porture cement concrete, sand—building, porture cement concrete, road construction/resurfacing, filtration, ice control gravel—portland cement concrete, asphaltic concrete, road	construction/resurfacing sand—portland cement concrete, asphaltic concrete, road construction/resurfacing, filtration, ice control gravel—portland cement concrete, asphaltic concrete, road	construction/resurfacing, other sand—portland cement concrete, asphaltic concrete, road construction/resurfacing, filtration gravel—portland cement concrete, asphaltic concrete, road construction/resurfacing	sand—road construction/resurfacing	sand—fill	glaver—screened	gravel—iii, bank tun sanda—fill gravel—fill	sand—unspecified	Bravel—unispenner sand—building, portland cement concrete, asphaltic concrete, road construction/resurfacing	gravel—building, portland cement concrete, aspnaute concrete, road construction/resurfacing sand—unspecified gravel—unspecified	sand—unspecified	grave.—unspectited sand—road construction/resurfacing	graver—road constructions sand-unspecified	grave—unspectation on the construction/resurfacing grand hallding road construction/resurfacing	gravel—nomunit gravel—unspecified	graver—unspectated sand—building masonry, unspecified	gravel—bullung, buter sand—building, saphaltic concrete	graver—commission of the sand—unspecified	gravel—unspectned sand—building, bedding	gravel—bound functions to base gravel—building portland cement concrete, asphaltic concrete, base gravel—building
Township	Harrison	Falls	Wayne	Washington	Cass	Cass	Cass	Circleville	Darby	Wayne	Circleville, Wayne	Scioto	Scioto	Scioto	Suffield	Aurora	Shalersville	Shalersville	Shalersville	Charlestown	Franklin, Ravenna	Streetsboro	Franklin	Suffield
Name of pit	Lazy Acre Farms, Inc.	Luburgh, Inc. Sand Pit	Muskingum River Gravel Co.	Salt Creek Materials, Inc.	Jennings-Lacy	Prospect	Gilbert Cox	Circleville #216	Darby Gravel	Hoffman Pit	Richards Farms, Inc.	Plant #1	Cutlip	Valley Materials Co.	American Sand & Gravel	Aurora Sand & Gravel, Inc.	Beck Sand & Gravel, Inc.	Karl Brugmann Sand & Gravel, Inc.	Oscar Brugmann Sand & Gravel, Inc.	Charlestown Sand & Gravel, Inc.	R. A. Cruise Sand & Gravel, Inc.	Don's Dozer Service	Green Oaks Potting Products, Inc.	Hilltop Aggregate, Inc.
Name of operator	Lazy Acre Farms, Inc.	Luburgh, Inc.	Muskingum River Gravel Co.	Salt Creek Materials, Inc.	The Shelly Co., Cox Gravel Division			American Aggregates Corp.	Darby Gravel	William A. Hoffman, Jr.	Richards Farms, Inc.	Gregory Materials Co.	Standard LaFarge	Valley Materials Co.	American Sand & Gravel	Aurora Sand & Gravel, Inc.	Beck Sand & Gravel, Inc.	Karl Brugmann Sand & Gravel, Inc.	Oscar Brugmann Sand & Gravel, Inc.	Charlestown Sand & Gravel, Inc.	R. A. Cruise Sand & Gravel, Inc.	Don's Dozer Service	Green Oaks Potting Products, Inc.	Hilltop Aggregate, Inc.
County	Muskingum							Pickaway				Pike			Portage									

Hugo Sand Co.	Hugo Sand Co.	Franklin	sand—building, road construction/resurfacing, other	01-21
Jefferson Materials Co.	Howitt	Streetsboro		Pe-63
Johnson Rd. Sand & Gravel, Inc.	Johnson Rd. Sand & Gravel, Inc.	Franklin		Pe-J11
Karg Sand & Gravel Co.	Karg Sand & Gravel Co.	Brimfield	gravel—building sand—fill, sewer use	Pe-83
Lakeside Sand & Gravel Co.	Lakeside Sand & Gravel Co.	Shalersville	gravel—oversize sand—building, portland cement concrete	Pe-40
Miller Sand & Gravel Co.	Miller Sand & Gravel Co.	Windham	graver—bunding sand—building, fill	Pe-39
Northern Ohio Materials, Inc.	Northern Ohio Materials, Inc.	Streetsboro	graver—building; mit sand—building; portland cement concrete	Pe-85
Rainbow Sand & Gravel, Inc.	Rainbow Sand & Gravel, Inc.	Shalersville		Pe-64
Red Brush Peat Co.	Red Brush Peat Co.	Franklin	gravel—unspecined sand—bank run	Pe-61
S & S Aggregate, Inc.	Twin Lakes Sand, Inc.	Shalersville, Streetsboro	gravel—bank run sand—unspecified	Pe-59
	Twin Lakes Sand, Inc.	Streetsboro	gravel—unspecified ssand—unspecified	Pe-67
Schloss Paving Co.	Schloss Paving Co.	Mantua		Pe-60
Sober Sand & Gravel Co.	Sober Sand & Gravel Co.	Roote' own	graver—aspinant contreve sand—building fill, base	Pe-18
Solon Excavators Sand & Gravel, Inc.	Solon Excavators Sand & Gravel, Inc.	Mantua	graver—burlung, int., base sand—building, asphaltic concrete	Pe-SE11
Standard Lafarge	Shalersville	Shalersville	Stavet—building, portland cement concrete, asphaltic concrete, road construction/resurfacing gravel—building, portland cement concrete, asphaltic concrete, asphaltic concrete.	Pe-68
Sunshine Sand Co.	Sunshine Sand Co.	Streetsboro	road construction/resumacing sand—building	Pe-SSC11
Don Wartko Construction, Inc.	Don Wartko Construction, Inc.	Brimfield	gravet—building sand—fill	Pe-92
Loxley Aggregates, Inc. Southern Ohio Aggregates, Inc.	Loxley Aggregates, Inc. Southern Ohio Aggregates, Inc.	Twin Gratis, Lanier	sand—building, masonry	Pre-9 Pre-7
Wysong Gravel Co.	Camden Plant	Somers	graver—unspermen and—building portland cement concrete, asphaltic concrete, mad construction/resurfacing	Pre-4
	West Alexandria Plant	Twin	gravel—building, portland cement concrete, asphaltic concrete, road construction/resurfacing sand—building, portland cement concrete, asphaltic concrete, road construction/resurfacing gravel—building, portland cement concrete, asphaltic concrete, road construction/resurfacing	Pre-6
Bolin & Bartley, Inc.	Bolin & Bartley Sand & Gravel	Weller	sand—building, asphaltic concrete, fill	Rd-20
D. H. Bowman & Sons, Inc.	D. H. Bowman & Sons, Inc.	Jefferson	gravel—building spanding gravel—building spanding gravel—building spanding spanding.	Rd-4
Ganges Gravel	Ganges Gravel	Cass	ng, ntration, m, pipe begaing sand—unspecified	Rd-18
John L. Garber Materials, Inc.	John L. Garber Materials, Inc.	Troy	glavel—unspecified	Rd-14
Carroll Lifer Excavating, Inc.	Carroll Lifer Excavating, Inc.	Jefferson	gravet—building, road construction/resurfacing, fill gravet—building, road construction/resurfacing, fill gravet—building, road construction/resurfacing, fill	Rd-L11
Chillicothe Sand & Gravel Co.	Chillicothe Sand & Gravel Co.	Springfield	sand—building, road construction/resurfacing	Rs-27
Elm Spring Farm	Elm Spring Farm	Union	graver—pounding, road construction/resurfacing	Rs-26

Preble

No mine number has been assigned by the Division of Mines.

1991 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY—Continued

State mine number	Rs-H ¹²	So-98	So-100	So-79	Shy-12	$\mathrm{Shy-}13^{13}$	Shy-11	Shy-18	Sk-694	Sk-203	Sk-243	Sk-689	Sk-681	Sk-688	Sk-M ¹²	Sk-607	Sk-165	St-55	St-29	St-52	St-L ¹²	St-56	St-46	St-53	St-54
Type and principal use	sand—building, road construction/resurfacing gravel—road construction/resurfacing sand—unspecified gravel—unspecified	sand—building, unspecified gravel—building, unspecified	sand—portland cement concrete, masonry gravel—road construction/resurfacing, bank run		sand—fill	gravei—nu sand—bank run ————————————————————————————————————	gravet—bank run sand—building, portland cement concrete, asphaltic concrete	gravel—northand cement concrete, road construction/resurfacing gravel—portland cement concrete, road construction/resurfacing gravel—portland cement concrete, road construction/resurfacing	sand—unspecified	gravel—unspectred sand—unspecified	gravei—unspecined	graver—unspectived sand—asphaltic concrete, other gravel—portland cement concrete, asphaltic concrete, road	construction resultants, outer grand-portland concrete, other grand-portland cement concrete, asphaltic concrete, other grand-nort grand-port such concrete asphaltic concrete, other	sand—building	gravei—bunung gravei—road construction/resurfacing gravei — road construction/resurfacing	gravel portland cement concrete, road construction/resurfacing	state—poluding, asphaltic concrete, ice control, fill gravel—building, asphaltic concrete, road construction/resurfacing, ice control, fill	sand—unspecified	gravel—unspecified gravel—unspecified	gravel—mispecined gravel—mispecified gravel—mispecified	gravel—unspecified		gravel—bunung gravel—fill movel—fill	gravel—uni gravel—uniding gravel building	grave—Juntanis gravel—building
Township	Springfield Jefferson	Porter	Valley	Green	McLean	Washington	Washington	Washington	Lawrence	Jackson	Jackson	Jackson	Plain	Jackson	Perry	Bethlehem	Jackson, Perry	Northampton	Green	Norton	Portage	Tallmadge	Springfield	Coventry	Copley
Name of pit	Haubeil & Sons Asphalt & Materials, Inc. Muskingum River Gravel Co.	Blair Pit	Scioto Valley Resources Division	Haverhill	Fleckenstein Farm Gravel Pit	Milligan & Milligan-Washington	1 wp. Prt Pence Deposit	Jones Deposit	Neidert Pit	American Sand & Gravel	American Sand & Gravel	Canton Aggregate	Canton Aggregate	Heiser Sand & Gravel	Massillon Materials, Inc.	Massillon Washed Gravel Co.	Massillon Plant	Alden Sand & Gravel Co.	American Sand & Gravel	Flesher Sand & Gravel, Inc.	Lerkis Sand & Gravel Co., Inc. &	Chapel Hill Sand & Gravel	Krumroy Pit	Portage Lakes Sand & Gravel Co.	Copley Sand & Gravel
Name of operator	Haubeil & Sons Asphalt & Materials, Inc. Muskingum River Gravel Co.	E. E. Blair Construction Co.	Scioto Valley Resources	Standard Lafarge	Fleckenstein Farm Gravel Pit	Sidney Sand & Gravel Co.	Spring Creek Corp.		A. J. Diana Sons, Inc.	American Sand & Gravel		Canton Aggregate (Div. of Central Allied Enterprises, Inc.)		Heiser Sand & Gravel	Massillon Materials, Inc.	Massillon Washed Gravel Co.	Oster Sand & Gravel, Inc.	Alden Sand & Gravel Co.	American Sand & Gravel	Flesher Sand & Gravel, Inc.	Lerkis Asphalt Co., Inc. & Subsidiary	M. & G. Supply Co.	H. M. Miller Construction Co.	Portage Lakes Sand & Gravel Co.	R & S, Inc.
County	Ross (cont.)	Scioto			Shelby				Stark									Summit							

	Rivarside Sand & Gravel Co. Inc	Riverside Sand & Gravel Co Inc	Stow Tallmadge	eand milling sentralific nonwests road construction recentracing	C+-24
			and the same of th	gravel—building, road construction/resurfacing	
	Rubber City Sand & Gravel Co.	Rubber City Sand & Gravel Co.	Green	sand—building, portland cement concrete, filtration gravel—building, portland cement concrete, road construction/	St-9
	S & S Aggregate, Inc.	Twin Lakes Sand, Inc.	Coventry	resurfacing, filtration, other sand—unspecified gravel—unspecified	St-44
Trumbull	Samco, Inc.	Springbrook	Mesopotamia	sand—building, portland cement concrete, asphaltic concrete, road construction/resurfacing, fill gravel—building, road construction/resurfacing	TI-12
Tuscarawas	Benco Leasing, Inc.	Goshen Sand & Gravel	Goshen	sand—other	Ts-1976
	Larkin Sewer Contractors, Inc.	Larkin Sewer Contractors, Inc.	Goshen	gravel—other sand—building, road construction/resurfacing	Ts-L12
	Newton Asphalt	516	Dover	gravel—building, road construction/resurfacing sand—asphaltic concrete, road construction/resurfacing, other	Ts-2001
	Oster Sand & Gravel, Inc.	Bolivar Plant	Lawrence	gravel—asphatic concrete, road construction resurfacing, other sand—building, asphaltic concrete, ice control, fill gravel—building, asphaltic concrete, road construction/resurfac-	Ts-1852
	Soehnlen Bros. Sand & Gravel, Inc.	Soehnlen Bros. Sand & Gravel, Inc.	Wayne	ing, ice control, fill sand construction/resurfacing, filtration sand—building, road construction/resurfacing, filtration	Ts-1826
	Spring Industries, Inc.	Midvale Pit	Goshen	grave—building, portland cement concrete, asphaltic concrete	Ts-1771
		County Line Plant	Franklin	gravel—bunding, por dand centeric concrete, aspiratic concrete sand—filtration	Ts-1788
	Stewart & Reichman, Inc.	Stewart & Reichman, Inc.	Warwick	gravel—aspiratuc concrete sand—road construction/resurfacing	Ts-111
	Stocker Sand & Gravel Co.	Stocker Sand & Gravel Co.	Clay	gravel—road construction/resurfacing sand—building, road construction/resurfacing	Ts-69
		Stocker Sand & Gravel Co.	Clay	gravel—bunding, road construction/resurfacing sand—bulding, road construction/resurfacing	Ts-125
	Zink Petroleum Corp. (dba State Rte. 416 Sand & Gravel)	State Rte. 416 Sand & Gravel	Goshen	grave—uniting, road construction/resurtating sand—building, portland cement concrete, fill gravel—building, portland cement concrete, road construction/resurfacing, filtration	Ts-2018
Warren	American Aggregates Corp.	Franklin #714	Franklin	sand-road construction/resurfacing	Wan-38
	Paul N. Herdman	Paul N. Herdman	Salem	gravel—road construction resurracing sand—unspecified	Wan-46
	L & I Natural Resources, Inc.	L & I Natural Resources, Inc.	Hamilton	graver—unspectified sand—building propertied	Wan-8
		L & I Natural Resources, Inc.	Union	graver—building, unspecified sand—building unspecified	Wan-50
	Morrow Gravel Co.	Morrow Gravel Co.	Hamilton	graver—bunding, dispectived sand—unspectified	Wan-M ¹²
	Carl E. Oeder & Sons Sand & Gravel	Carl E. Oeder & Sons Sand & Gravel	Union	graver—unspecified gravel—unspecified	Wan-41
Washington	Atlas Towing Co.	Belpre Bank Run	Belpre	sand—unspecified	Wn-54
	Briggs Sand & Gravel, Inc.	Briggs Sand & Gravel, Inc.	Warren	graver—unspecified sand—building	Wn-508
	Coprolite Sand & Gravel Corp.	Devola Plant #2	Muskingum	Braver—bonnamig sand—building	Wn-4414
	Grimes Excavating	Grimes Excavating	Grandview	graver—bunding sand—road construction/resurfacing	Wn-1008
	Muskingum River Gravel Co.	Plant #2	Grandview		Wn-38
	Trout Sand & Gravel Co.	Trout Sand & Gravel Co.	Warren	gravel—building	Wn-510
		-			

12No mine number has been assigned by the Division of Mines.
13Information for Shy-13 includes information for Shy-S.
14This mine was operated 1st through 3rd quarter 1991 by Union Slag Corp., and 4th quarter by Coprolite Sand & Gravel Corp.

1991 OHIO DIRECTORY OF SAND AND GRAVEL MINING OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY—Continued

State mine number	Wn-43	Wn-44 ¹⁵	Wn-Wn ¹⁶	Wn-1007 Wn-1009	We-11	We-7	We-S ¹⁶ We-15	Ws-6	Ws-T ¹⁶ Ws-11	Wd-13	Wt-17	Wt-15 ¹⁷	Wt-4
Type and principal use	sand—building	gravel—building gravel—building	sand—road construction/resurfacing	sand—building sand—building grave]—building, asphaltic concrete	sand—building, road construction/resurfacing	gravel—bortland cement concrete, asphaltic concrete gravel—building, portland cement concrete, asphaltic concrete,	road construction resultating, increased gravel—building sand—unspecified gravel—unspecified	sand—portland cement concrete, asphaltic concrete, foundry, other	gravel—building, road construction/resurfacing, other sand—building sortland cement concrete, filtration gravel—building, fill	sand—fill	sand—building, asphaltic concrete, road construction/resurfacing, Wt-17 filtration	gravel—building, road constructionresurfacing, filtration sand—portland cement concrete, asphaltic concrete cravel—nortland cement concrete	sand—building portland cement concrete gravel—portland cement concrete
Township	Muskingum	Muskingum	Muskingum	Warren Warren	Franklin	Baughman	Canaan Chippewa	Superior	Superior St. Joseph	Plain	Eden	Eden	Crane, Eden
Name of pit	Plant #3	Plant #2	Washington County Pit	Williams Pit #1 Williams Pit #2	Prairie Lane Sand & Gravel Co.	Rupp Construction, Inc.	Steven R. Steiner Zollinger Sand & Gravel Co.	South Montpelier	Takacs Excavating Weber Sand & Gravel, Inc.	G. M. Sader Excavating & Paving, Inc.	Kirby's Sand & Gravel, Inc.	Upper Sandusky Plant	Precision Aggregate, Inc.
Name of operator	Union Slag Corp.		Washington County Engineer	Mark Williams Blacktop Co., Inc.	Prairie Lane Sand & Gravel Co.	Rupp Construction, Inc.	Steven R. Steiner Zollinger Sand & Gravel Co.	Stoneco, Inc.	Takacs Excavating Weber Sand & Gravel, Inc.	G. M. Sader Excavating & Paving, Inc.	Kirby's Sand & Gravel, Inc.	National Lime & Stone Co.	Precision Aggregate, Inc.
County	Washington	(cont.)			Wayne			Williams		Wood	Wyandot		

¹⁵This mine was operated 1st through 3rd quarter 1991 by Union Slag Corp., and 4th quarter by Coprolite Sand & Gravel Corp. ¹⁶No mine number has been assigned by the Division of Mines. ¹⁷Information for Wt-15 includes information for Wt-5 and Wt-18.

1991 SANDSTONE/CONGLOMERATE COMPANIES WITH SALES OR PRODUCTION

Company	No. of operations	Sales (tons)	Production (tons)
Alan Stone Co., Inc.	1	2,104	2,104
Beaver Creek Resources, Inc.	1	84,482	84,482
Best Sand Corp.	1	587,163	776,315
Boyas Excavating, Inc.	1	6,750	6,750
Briar Hill Stone Co.	7	19,659	19,587
Central Silica Co.	2	366,154	366,154
Cleveland Quarries Co.		25,762	25,762
Gwin Contracting Co.	2 1 1	25,211	25,211
Hard Rocks, Inc.	1	11,509	27,600
Kimble Clay & Limestone Co.	1	2,651	- 2,651
L & M Mineral Co.	1	4,661	4,661
Mesenburg Bros., Inc.	1	11,994	11,994
Riverside Sand & Gravel Co., Inc.	1	25,942	25,942
Schrader Sand & Gravel	1 1	32,989	34,878
R. W. Sidley, Inc.	1	238,709	263,506
Southern Silica, Inc.	1	202,517	153,303
U.S. Silica Co.	1 1	12,898	12,898
Waller Bros. Stone Co.	2	18,357	18,357
TOTAL: 18 companies	27	1,679,512	1,862,155



 $\begin{array}{c} \textbf{Grindstone quarrying operation. Date and location of photo unknown.} \\ \textbf{Photo courtesy of Ohio Historical Society.} \end{array}$

1991 OHIO DIRECTORY OF SANDSTONE/CONGLOMERATE MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

State mine number	Ca-855	Cn-13 Cn-686 Cn-815 Cn-695 Cn-659	Cya-42	Ee-21	Gea-3	Gea-1	Hs-49	Hrn-8	Kx-12 Kx-1	Ln-3	Mg-62	Py-344	Pke-31	Rs-16	So-48 So-76	St-24	TI-13	Ts-1818	Ts-1982 Ts-1660	Wn-45
Type and principal use	crushed or broken stone—aggregate, base	dimension stone—rough architectural	crushed or broken stone—unspecified	crushed or broken stone—riprap dimension stone—refractory, rubble, finished, flagging	crushed or broken stone—foundry sand, glass sand, metallurgical pebble, refractory, aggregate, fire and furnace sand, polishing/grinding sand, engine sand, frac sand, trap sand, construction, filtration, filler, extender, landscape use		dimension stone—rough architectural	crushed or broken stone—riprap	dimension stone—rough architectural crushed or broken stone—foundry sand, glass sand, silica flour, engine sand, frac sand, other	crushed or broken stone—riprap, aggregate dimension stone—refractory, rubble, finished, flagging	crushed or broken stone—fractured laminated sand rock	crushed or broken stone—foundry sand, glass sand, silica flour, other	crushed or broken stone—foundry sand, metallurgical pebble, construction, other	crushed or broken stone—foundry sand, glass sand, engine sand, construction sand, fill, filtration, industrial sand	dimension stone—unspecified dimension stone—unspecified	crushed or broken stone—aggregate	crushed or broken stone—aggregate	crushed or broken stone—construction	crushed or broken stone—riprap crushed or broken stone—fire and furnace sand	crushed or broken stone—riprap
Geological unit		Massillon (Pennsylvanian) Massillon (Pennsylvanian) Massillon (Pennsylvanian) Massillon (Pennsylvanian) Massillon (Pennsylvanian)	Bedford (Mississippian)	Berea (Mississippian)	Sharon conglomerate (Pennsylvanian)	Sharon conglomerate (Pennsylvanian)	Massillon (Pennsylvanian)	Berea (Mississippian)	Massillon (Pennsylvanian) Black Hand (Mississippian)	Berea (Mississippian)	Sharon sandstone (Pennsylvanian)	Massillon (Pennsylvanian)	Sharon conglomerate (Pennsylvanian)	Sharon conglomerate (Pennsylvanian)	Buena Vista (Mississippian)				Massillon (Pennsylvanian)	
Township	Salem	Monroe Monroe Monroe New Castle Tiverton	City of Valley View	Florence	Munson	Thompson	Knox	Townsend	Jefferson Union	Amherst	Milton	Hopewell	Jackson	Jefferson	Rush Morgan, Rush, Union	Stow, Tallmadge	Kinsman	Dover	Mill, Warwick Wayne	Warren
Name of quarry	Beaver Creek Resources, Inc.	Quarry #26 Quarry #32 Quarry #55 Quarry #18 Quarry #3	Boyas Valley View Quarry	Birmingham Quarry	Best Sand Corp.	Thompson Pit	Quarry #31	Mesenburg Bros., Inc.	Quarry #6 Millwood Sand Division	Amherst Quarries	Gwin Contracting Co.	Glass Rock	Schrader Sand & Gravel	Southern Silica, Inc.	Inskeep Quarry Crabtree Quarry	Riverside Sand & Gravel Co., Inc.	Hard Rocks, Inc.	Kimble Clay & Limestone	Co. Spring Coxey Works	Marietta Quarry
Name of operator	Beaver Creek Resources, Inc.		Boyas Excavating, Inc.	Cleveland Quarries Co.	Best Sand Corp.	R. W. Sidley, Inc.	Briar Hill Stone Co.	Mesenburg Bros., Inc.	Briar Hill Stone Co. Central Silica Co.	Cleveland Quarries Co.	Gwin Contracting Co.	Central Silica Co.	Schrader Sand & Gravel	Southern Silica, Inc.	Waller Bros. Stone Co.	Riverside Sand & Gravel Co., Inc.	Hard Rocks, Inc.	Kimble Clay & Limestone Co.	L& M Mineral Co.	Alan Stone Co., Inc.
County	Columbiana		Cuyahoga [Erie	Geauga		Holmes			Lorain	Mahoning	Perry	Pike	Ross	Scioto	Summit	Trumbull	Tuscarawas		Washington

1991 CLAY COMPANIES

Company	No. of operations	Sales (tons)	Production (tons)
Addington, Inc. American Landfill, Inc. Athens Hocking Reclamation Center Beaver Excavating Co. Belden Brick Co. Blue Jay Enterprises of Tuscarawas Co., Inc.	1 1 1 5 1	3,568 225,791 1,084 500,000 257,604 21,014	3,568 225,791 1,084 500,000 257,604 21,014
Bowerston Shale Co. Browning-Ferris Industries of Ohio, Inc.	1 1	4,020 142,00	4,020 142,000
Cedar Heights Clay Co. Clark Clay Co. Claycraft Co.	1 1 1	45,810 3,096 8,775	45,810 1,819 8,775
Dennis Clay Co. Envirosafe Services of Ohio, Inc. Ford Development Corp. General Clay Products Corp. Green Basin Coal, Inc.	3 1 1 2 1	19,356 13,345 1,500 31,033 17,161	19,356 13,345 1,500 28,604 17,161
Holmes Limestone Co. Janson Soil Service, Inc. Kimble Clay & Limestone Co. L & M Mineral Co. Lafarge Corp.	2 1 1 2 1	23,321 20 224,911 23,075 206,850	23,321 20 224,911 23,075 206,850
Mitchell Transport, Inc. Nutter Bros. Coal Co., Inc. Red Brush Peat Co. S. K. Construction Co. Sandkuhl Tile Co.	1 2 1 1	41,744 29,686 3,234 89,982 3,216	41,744 29,686 3,234 89,982 3,109
Soltis Sand & Gravel Southwestern Portland Cement Co. Stone Creek Brick Co. Swingle Drilling, Inc. Valley Materials Co.	1 1 1 1	6,375 164,711 43,763 930 1,153	6,375 96,425 43,763 630 1,153
Valley Mining Co. Waste Management of Ohio Waterloo Coal Co., Inc. White Eagle Mining, Inc. Frank Widmor Coal Co. Zoar Mining Co.	1 2 1 1 1 1	2,686 443,728 3,885 11,500 750 788	2,686 443,728 3,885 11,500 750 23,901
TOTAL: 37 companies	48	2,621,465	2,572,179

1991 OHIO DIRECTORY OF CLAY-MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

County	Name of operator	Name of mine	Township	Geological unit	Principal use	State mine number
Ashtabula	Janson Soil Service, Inc.	1	Morgan		construction	Asa-14
Athens	Athens Hocking Reclamation Center	nation Center	York	Plaistocene glacial clav	plugging material common clay products	Ae-7
Auglaize	Sandkuhl Tile Co., Inc.	Prank Widmor Coal Co.	Pultnev		construction	Bt-1190
Butler	Ford Development Corp	Ford Development Corp.	Fairfield Madison		common clay products	Br-F ¹ Br-SK ¹
Coshocton	General Clay Products Corp.	Drescher Pit	T	No. 5 clay (Pennsylvanian)	common clay products	Cn-787
Geauga	Soltis Sand & Gravel	Soltis Sand & Gravel	Parkman		fill	Gea-9
Greene	Southwestern Portland Cement Co.	Harner			cement manufacture	Ge-44 Hg-205
Hocking	General Clay Products Corp.	General Clay Products Corp.	Falls Gore	No. 5 fire clay (Pennsylvanian)	vitrified products	HS-56
Holmes	Clark Clay Co. Holmes Limestone Co.	Clark Clay Co. 241 Plant	Hardy Hardy	Putnam Hill (Fennsylvanian) Brookville & Putnam Hill (Fennsylvanian)	common clay products	Hs-67
Jackson	Cedar Heights Clay Co. (Div. of Resco	Cedarloo/Jenkins/Greer	Madison	No. 5 clay (Pennsylvanian)	common clay products	JKn-1007
	Froducts, Inc. Waterloo Coal Co., Inc.	Waterloo-Zoar	Bloomfield, Madison	No. 5 & No. 6 clays (Pennsyvlanian)	refractories	Jkn-367
Lake	Mitchell Transport, Inc.	North Park Ash Reclamation Center	Painesville		landnii use	LAKE-IM.
Lawrence	Addington, Inc. White Eagle Mining, Inc.	Addington, Inc. White Eagle Mining, Inc.	Washington Elizabeth	No. 5 clay (Pennsylvanian)	common clay products unspecified	Le-445
Lucas	Envirosafe Services of Ohio, Inc.	Envirosafe Services of Ohio, Inc.	Oregon		landfill use	LS-E-
Muskingum	Bowerston Shale Co. Dennis Clay Co.	Frazeysburg Corder Mine Obio Power	Jackson Newton Newton	Flint Ridge & Middle Mercer (Pennsylvanian) No. 5 clay (Pennsylvanian)	vitrified products common clay products common clay products	Mum-DC ¹
	Valley Mining Co.	Valley Mining Co.	Newton		common clay products	Mum-904
Ottawa	Browning-Ferris Industries of Ohio,	Browning-Ferris Industries of Ohio, Inc.	Erie		landfill use	Oa-D:
Paulding	Lafarge Corp.	Paulding Quarry	Crane	Detroit River & upper Dundee (Devonian)	cement manufacture	Pg-1
Рету	Dennis Clay Co. Nutter Bros. Coal Co., Inc.	Dennis Clay Co. Nutter Bros. Coal Co., Inc. Nutter Bros. Coal Co. Inc.	Monday Creek Monday Creek Monday Creek		common clay products common clay products common clay products	Py-336 Py-336 Py-N ¹
	Swingle Drilling, Inc.	Myron Taylor	Harrison		common clay products	Py-St Pke-26
Pike	Valley Materials Co.	Valley Materials Co.	Scioto		unspecified	Po-R1
Portage	Beaver Excavating Co. Red Brush Peat Co.	Beaver Excavating Co. Red Brush Peat Co.	Atwater Franklin		unspecified	Pe-61
Stark	American Landfill, Inc. Holmes Limestone Co. Waste Management of Ohio	American Landfill, Inc. Bolivar Mine Statewide RDF Countywide RDF	Sandy Bethlehem Canton Bethlehem, Pike	No. 5 & No. 6 clay (Pennsylvanian) Brookville (Pennsylvanian) No. 5 & No. 6 clay (Pennsylvanian) No. 5 & No. 6 clay (Pennsylvanian)	landfill use common clay products landfill use landfill use	Sk-246 Sk-235 Sk-WM ¹ Sk-WM1 ¹
Tuscarawas	Belden Brick Co.	Wallick Pit Moomaw Pit	Franklin, Wayne Sugar Creek	Brookville (Pennsylvanian) Brookville (Pennsylvanian)	common clay products	Ts-1841 Ts-1517 Te-1646
		Belden Pit Shanesville Pit Beagle Pit	Sugar Creek Sugar Creek Sugar Creek	Brookville & Lower Kuttanning (Pennsylvanian) Brookville (Pennsylvanian) Brookville (Pennsylvanian)	common clay products common clay products common clay products	Ts-1939 Ts-1960 Ts-520
	Blue Jay Enterprises of Tuscarawas Co., Inc.	Swanger-Waltz Mine	Sandy		construction, other	Ts-2024
	Green Basin Coal, Inc. Kimble Clay & Limestone Co.	Green Basin Coal, Inc. Kimble Clay & Limestone Co.	Lawrence	Vanport (Pennsylvanian)	common clay products, refractories, construction	Ts-1818
	L & M Mineral Co.	Luikert	Mill Mill, Warwick		common clay products	Ts-1982
	Stone Creek Brick Co. Zoar Mining Co.	Stone Creek Clay Mine Zoar Mining Co.	Jefferson Sandy		common clay products	Ts-540
Wyandot	Claycraft Co.	Claycraft Plant #1 Clay Pit	Crane	alluvial clay	common clay products	Wt-7
1No mine n	¹ No mine number has been assigned by the Division of Mines.	nes,				

1991 SHALE COMPANIES

Company	No. of operations	Sales (tons)	Production (tons)
American Landfill, Inc.	1	17,579	17,579
Belden Brick Co. Blue Jay Enterprises of Tuscarawas Co., Inc.	1	213,579 11,493	213,579 11,493
Bowerston Shale Co. Dennis Clay Co.	2 2	46,716 6,607	46,716 6,607
Dome Minerals, Inc.	1	4,260	4.260
E.M.A.I. Corp. dba ESSROC Materials, Inc.	2	104,254	202,075
General Clay Products Corp. Glen-Gery Corp.	4	76,871 153,110	67,205 153,110
Holmes Limestone Co.	1	2,244	2,244
Hydraulic Press Brick Co.	1	192,104	195,207
Janson Soil Service, Inc. Kimble Clay & Limestone Co.	1 1	$\frac{200}{302.877}$	200 302,877
L & M Mineral Co.	3	45,031	45,031
London Tile Co.	1	1,172	1,172
Midwest Portland Cement Corp.	1	12,891	12,891
Nutter Bros. Coal Co., Inc. Richland Moulded Brick Co.	1 1	13,455	13,455
Stone Creek Brick Co.	1	6,555 $4,037$	6,555 4,037
Summitville Tiles, Inc.	2	36,067	36,067
Towne Square Products	1	1,505	1,505
Waste Management of Ohio	2	581,922	581,922
Frank Widmor Coal Co. Zoar Mining Co.	1 1	3,930	3,930
	1	996	996
TOTAL: 24 companies	37	1,839,455	1,930,713



Teachers studying shale of the Logan Formation at the Bowerston Shale Co. brick operation at Hanover, Licking County. Photo taken during 1992 Ohio's Mineral Industries Teachers Workshop.

1991 OHIO DIRECTORY OF SHALE-MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

County	Name of operator	Name of mine	Township	Geological unit	Principal use	State mine number
Ashland	London Tile Co.	Biglow	Ruggles	Bedford (Mississippian)	common clay products	Ald-1
Ashtabula	Janson Soil Service, Inc.	Janson Soil Service, Inc.	Morgan		construction	Asa-14
Belmont	Frank Widmor Coal Co.	Frank Widmor Coal Co.	Pultney		construction	Bt-1190
Columbiana	Dome Minerals, Inc.	Dome Minerals, Inc.	Franklin		common clay products,	Ca-947
	Summitville Tiles, Inc.	Summitville Tiles, Inc. Summitville Tiles, Inc.	Franklin Franklin		common clay products common clay products	Ca-205 Ca-989
Coshocton	General Clay Products Corp.	Drescher Pit	Crawford	Lower Kittanning (Pennsylvanian)	common clay products	Cn-787
Cuyahoga	Hydraulic Press Brick Co.	Hydraulic Press Brick Co.	City of Independence	Chagrin (Devonian)	lightweight aggregate	Cya-19
Harrison	Bowerston Shale Co.	Bowerston	Monroe	Conemaugh (Pennsylvanian)	vitrified products	Hn-152
Hocking	General Clay Products Corp.	General Clay Products Corp.	Falls Gore	No. 5 fire clay (Pennsylvanian)	vitrified products	Hg-205
Holmes	General Clay Products Corp. Holmes Limestone Co.	Troyer Pit 241 Plant	Clark Hardy	Lower Kittanning (Pennsylvanian) Brookville & Vanport (Pennsylvanian)	common clay products common clay products	Hs-77 Hs-67
Licking	Bowerston Shale Co.	Hanover	Hanover	Logan (Mississippian)	vitrified products	Lg-501
Mahoning	E.M.A.I. Corp., dba ESSROC	Bessemer Pit	Poland	Vanport (Pennsylvanian)	cement manufacture	Mg-608
	Materials, Inc.	Carbon Pit	Poland, Springfield		cement manufacture	Mg-EM1
Marion	Glen-Gery Corp.	Glen-Gery Corp.	Tully	Bedford (Mississippian)	common clay products	Mn-7
Medina	General Clay Products Corp.	General Clay Products Corp.	Wadsworth		common clay products	Ma-6
Muskingum	Dennis Clay Co. Midwest Portland Cement Corp.	Ohio Power Lyle Quarry	Newton Newton		common clay products cement manufacture	Mum-DC ¹ Mum-24
Noble	Towne Square Products	Towne Square Products	Buffalo		common clay products	Ne-66
Perry	Dennis Clay Co.	Dennis Clay Co. Nutter Bros. Coal Co Inc.	Monday Creek Monday Creek		common clay products common clay products	Py-338 Py-336
Richland	Richland Moulded Brick Co.	Richland Moulded Brick Co.	Franklin, Weller	Bedford (Mississippian)	common clay products	Rd-R1
Stark	American Landfill; Inc. Waste Management of Ohio	American Landfill, Inc. Statewide RDF Countywide RDF	Sandy Canton Bethlehem, Pike	Kittanning (Pennsylvanian) Kittanning (Pennsylvanian) Kittanning (Pennsylvanian)	landfill use landfill use landfill use	Sk-246 Sk-WM ¹ Sk-WM1 ¹
Tuscarawas	Belden Brick Co. Blue Jav Enterprises of Tuscarawas	Wallick Pit Moomaw Pit Belden Pit Shanesville Pit Swanger-Waltz Mine	Franklin, Wayne Sugar Creek Sugar Creek Sugar Creek Sugar Creek	Brookville & Strasburg (Pennsylvanian) Brookville & Tionesta (Pennsylvanian) Brookville & Tionesta (Pennsylvanian) Brookville (Pennsylvanian)	common clay products common clay products common clay products common clay products common clay products	Ts-1841 Ts-1517 Ts-1646 Ts-1939 Ts-520
	Co., Inc. Kimble Clay & Limestone Co. L & M Mineral Co. Stone Creek Brick Co.	Kimble Clay & Limestone Co. Evans Holmes Spring Stone Creek Shale Pit	Dover Mill, Rush, Warwick Mill, Rush Mill, Warwick Jefferson	Vanport (Pennsylvanian)	construction common clay products common clay products construction virtified products	Ts-1818 Ts-1884 Ts-1981 Ts-1982 Ts-1558 Ts-540
	Zoar Mining Co.	Zoar Mining Co.	Sanuy			

¹No mine number has been assigned by the Division of Mines.

1991 OHIO DIRECTORY OF SALT-MINE AND SALT-BRINING-PLANT OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

County	Name of operator	Name of mine	Township	Geological unit and product	State mine number
Cuyahoga Lake Licking Summit Wayne	Akzo Salt, Inc. Morton International, Inc., Morton Salt Div. R. H. Penick Co. Akzo Salt, Inc. Morton International, Inc., Morton Salt Div.	Cleveland Mine Fairport Mine R. H. Penick Co. Akzo Salt, Inc. Morton Salt Well Field	City of Cleveland Painesville Newark Coventry Milton	Salina (Silurian)—rock salt Salina (Silurian)—rock salt "Newburg" (Silurian)—natural brine Salina (Silurian)—artificial brine Salina (Silurian)—artificial brine	Cya-30 Lke-6 Lg-45 St-9127 We-9129

1991 OHIO DIRECTORY OF GYPSUM-MINE OPERATORS REPORTING SALES OR PRODUCTION

County	Name of operator	Name of mine	Township	Geological unit	State mine number
Ottawa	Celotex Corp.	American #2	Portage	Silurian	Oa-2

1991 OHIO DIRECTORY OF PEAT-MINE OPERATORS REPORTING SALES OR PRODUCTION, BY COUNTY

County	Name of operator	Name of mine	Township	Type and principal use	State mine number
Champaign Portage	Sphagnum Moss Peat Farm Green Oaks Potting Products Red Brush Peat Co.	Sphagnum Moss Peat Farm Green Oaks Potting Products Red Brush Peat Co.	Harrison Franklin Franklin	mulch, humus—worm culture mulch, other soil additive	Cpn-9 Pe-89 Pe-61
Williams	Lingvai Peat Co.	Lingvai Peat Co.	Center	mulch	Ws-17

COAL • O

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
3 4 16 19 27	Belmont Belmont Belmont Belmont	Bt-68 Bt-78 Bt-643 Bt-927 Bt-1074	D-0360 IM-733 D-0328 D-0483 D-0340	Ohio Valley Coal Co. Cravat Coal Co. Saginaw Mining Co. Fairpoint Coal Co. Ohio River Collieries, Inc.
38	Belmont	Bt-1104	D-0088	Marietta Coal Co.
39	Belmont	Bt-1105	D-0333	Marietta Coal Co.
42	Belmont	Bt-1109	D-0270	Marietta Coal Co.
59	Carroll	Cl-17	D-0282	James Bros. Coal Co.
61	Carroll	Cl-162	D-0408	James Bros. Coal Co.
98	Columbiana	Ca-919	D-0048, D-0412	Commercial Minerals, Inc. Peabody Coal Co. R & F Coal Co. R & F Coal Co. W. B. Coal Co., Inc.
112	Coshocton	Cn-799	D-0023, D-0668	
122	Coshocton	Cn-814	D-0489	
123	Coshocton	Cn-779	D-0320	
144	Harrison	Hn-738	D-0376	
146	Harrison	Hn-217	D-0440	Varkony Mining Co. Consolidation Coal Co. R & F Coal Co. Holmes Limestone Co. Holmes Limestone Co.
150	Harrison	Hn-700	D-0826 et al.	
153	Harrison	Hn-739	D-0119	
161	Holmes	Hs-67	IM-768	
162	Holmes, Wayne	Hs-79	IM-656	
164 165 178 180 181	Holmes Jackson Jefferson Jefferson	Hs-86 Jkn-367 Jfn-528 Jfn-687 Jfn-703	D-0193, D-0508 IM-774, D-0273 et al. D-0247, D-0563, D-0665 D-0404 D-0194, D-0736, D-0843	Holmes Limestone Co. Waterloo Coal Co., Inc. Boich Mining Co. Weirton Construction Co. Zimnox Coal Co.
183 185 186 189 190	Jefferson Jefferson Jefferson Jefferson	Jfn-720 Jfn-780 Jfn-784 Jfn-788 Jfn-789	D-0158 D-0126 D-0728 D-0327 D-0307	R & F Coal Co. D & L Contractors, Inc. F, & M. Coal Co. Anthony Mining Co., Inc. Anthony Mining Co., Inc.
205	Mahoning	Mg-65	D-0374	Thompson Bros. Mining Co. East Fairfield Coal Co. Southern Ohio Coal Co. Southern Ohio Coal Co. Quarto Mining Co. (Subsidiary of Consolidation Coal Co.)
211	Mahoning	Mg-626	D-0468	
212	Meigs	Ms-293	D-0354, D-0463	
213	Meigs	Ms-294	D-0355	
215	Monroe	Me-4	D-0433	
228	Muskingum, Noble	Ne-41	D-0839 et al.	Central Ohio Coal Co. B & N Coal, Inc. Crooksville Coal Co., Inc. ENZ, Inc. Hillcrest Coal, Ltd.
231	Noble	Ne-146	D-0343	
239	Perry	Py-317	D-0057 et al.	
246	Stark	Sk-208	D-0295	
250	Stark	Sk-221	D-0380	
255	Stark	Sk-663	IM-5	East Ohio Limestone Co. Empire Coal Co. Zoar Mining Co. Belden Brick Co. Kimble Clay & Limestone Co.
256	Tuscarawas	Ts-115	D-0190, D-0217, D-0398, D-0715	
258	Tuscarawas	Ts-540	IM-28	
261	Tuscarawas	Ts-1646	IM-44	
262	Tuscarawas	Ts-1727	IM-9	
264	Tuscarawas	Ts-1884	IM-6	L & M Mineral Co. L & M Mineral Co. Red Malcuit, Inc. R. A. Eberts Co., Inc. B. & D. Coal, Inc.
267	Tuscarawas	Ts-1914	D-0701	
269	Tuscarawas	Ts-1918	D-0236	
294	Vinton	Vn-163	D-0210	
298	Vinton	Vn-623	D-0294	
300	Vinton	Ms-293	D-0354, D-0463	Southern Ohio Coal Co. R & F Coal Co. Blum Coal Co. Huberta Coal Co. R & F Coal Co.
314	Guernsey	Gy-304	D-0262	
321	Columbiana	Ca-938	IM-937	
326	Harrison	Hn-222	D-0587	
327	Harrison	Hn-223	D-0552	
330	Hocking	Hg-321	D-0531	Valley Coal Corp. Benedict, Inc. Regal Mining, Inc. Holmes Limestone Co. Avis Coal Co.
357	Vinton	Vn-172	D-0445	
360	Carroll	Cl-233	D-0628	
363	Stark	Sk-235	IM-945, D-0865	
383	Athens	As-A	D-0557	
399	Harrison, Jefferson	Hn-225	D-0593	R & F Coal Co.
411	Tuscarawas	Ts-1982	IM-621	L & M Mineral Co.

COAL—Continued

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
415	Tuscarawas	Ts-K1	D-0203	Kimble Clay & Limestone Co.
416	Tuscarawas	Ts-K2	D-0413	Kimble Clay & Limestone Co.
418	Vinton	Vn-182	D-0631	R. A. Eberts Co., Inc.
419	Vinton	Vn-183	D-0633	Benedict, Inc.
420	Vinton	Vn-184	D-0524, D-0609	Benedict, Inc.
422	Vinton	Vn-186	D-0638	R. A. Eberts Co., Inc. Benedict, Inc. Miller Mining, Inc. Daron Coal Co., Inc. D. & D. Mining Co.
423	Vinton	Vn-187	D-0672	
426	Holmes	Hs-94	D-0699	
433	Tuscarawas	Ts-1991	D-0702	
441	Columbiana	Ca-348	IM-976	
442	Coshocton	Cn-HI	D-0673	R & F Coal Co.
443	Harrison	Hn-227	D-0681	R & F Coal Co.
447	Carroll	Cl-238	D-0703	Buckeye-Industrial Mining Co.
452	Belmont	Bt-1164	D-0742	Marietta Coal Co.
456	Belmont	Bt-1168	D-0619	R & F Coal Co.
459	Belmont	Bt-1173	D-0675	Ohio Coal & Construction Corp.
460	Belmont	Bt-1175	D-0338	R & F Coal Co.
465	Carroll	Cl-241	D-0782	Myers Mining
466	Carroll	Cl-242	D-0751	Buckeye-Industrial Mining Co.
467	Carroll	Cl-243	D-0805	Buckeye-Industrial Mining Co.
468	Carroll	Cl-H	D-0791	Horizon Coal Corp. Blum Coal Co. Blum Coal Co. Commercial Minerals, Inc. East Fairfield Coal Co.
470	Columbiana	Ca-944	IM-951	
471	Columbiana	Ca-950	D-0768	
472	Columbiana	Ca-951	D-0741	
475	Columbiana	Ca-968	D-0760	
477	Coshocton	Cn-824	D-0679	R & F Coal Co.
478	Coshocton	Cn-825	D-0758	Sugarcreek Clay & Limestone, Inc.
479	Coshocton	Cn-826	D-0770	Miller Mining, Inc.
483	Hocking	Hg-324	D-0754	Hocking Valley Mining
487	Holmes	Hs-825	D-0529	Sugarcreek Clay & Limestone, Inc.
489	Jefferson	Jfn-813	D-0740	Valley Mining, Inc.
491	Lawrence	Le-432	D-0746, IM-1072	Addington, Inc.
493	Noble	Ne-1008	D-0706	B & N Coal, Inc.
495	Noble	Ne-150	D-0787	B & N Coal, Inc.
497	Perry	Py-340	D-0783, D-0916, D-0936	Buckingham Mining & Reclamation, Inc.
499	Tuscarawas	Ts-197	D-0802	Miller Mining, Inc. Valley Mining, Inc. J D Mining, Inc. Miller Mining, Inc. R & F Coal Co.
504	Tuscarawas	Ts-1999	D-0738	
505	Tuscarawas	Ts-2000	D-0744	
506	Tuscarawas	Ts-2002	D-0779	
508	Tuscarawas	Ts-DW	D-0792	
509	Tuscarawas	Ts-K3	D-0729	Kimble Clay & Limestone Co. Red Malcuit, Inc. Quality Coal Co., Addington, Inc. Sands Hill Coal Co., Inc. B & N Coal, Inc.
510	Tuscarawas	Ts-2007	D-0737	
511	Vinton	Vn-188	D-0761	
513	Vinton	Vn-S	D-0793	
514	Noble, Washington	Ne-151	D-0807	
519 522 523 524 525	Belmont Belmont Belmont Belmont	Bt-1179 Bt-1182 Bt-1183 Bt-1184 Bt-146	D-0840 D-0854 D-0845 D-0799 D-0267	K.C.C.I. R & F Coal Co. Marietta Coal Co. Joyce Coal Co., Inc. Cravat Coal Co.
526	Carroll	Cl-244	D-0814	Regal Mining, Inc. Buckeye-Industrial Mining Co. Empire Coal Co. Holmes Limestone Co. Stewart Coal Co.
529	Columbiana	Ca-964, Ca-978	D-0874	
534	Guernsey	Gy-310	D-0842	
538	Holmes	Hs-97	D-0775	
539	Jackson	Jkn-1064	D-0732 et al.	
540	Jackson	Jkn-E	D-0695	Elk Coal, Inc. Sands Hill Coal Co., Inc. C L A Coal Co. R & F Coal Co. R & F Coal Co.
541	Jackson	Jkn-SH	D-0861, IM-1068	
543	Jefferson	Jfn-816	D-0825	
544	Jefferson	Jfn-817	D-0860	
545	Jefferson	Jfn-P2	D-0798	
547	Muskingum	Gy-308	D-0724	Thompson Mining Co.
550	Noble	Ne-147	D-0453	R & F Coal Co.

COAL—Continued

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
551	Noble	Ne-152	D-0859	King Quarries, Inc. Crooksville Coal Co., Inc. Valley Mining, Inc. Red Malcuit, Inc. Miller Mining, Inc. Valley Mining, Inc.
552	Perry	Py-335	D-0615, D-0875	
555	Tuscarawas	Ts-2005	D-0769	
556	Tuscarawas	Ts-2006	D-0800	
559	Tuscarawas	Ts-2010	D-0849	
560	Tuscarawas	Ts-2011	D-0822	
562	Tuscarawas	Ts-JD	D-0858	J D Mining, Inc. B. & D. Coal, Inc. B. & D. Coal, Inc. Holmes Limestone Co. Avis Coal Co.
563	Vinton	Vn-B	D-0836	
564	Vinton	Vn-BD	D-0207	
565	Coshocton	Cn-832	D-0589, D-0688, D-0856	
566	Athens	As-AC	D-0841	
567	Belmont	Bt-1186	D-0877	Ohio Coal & Construction Corp., Schiappa Coal Co., Inc. R & F Coal Co. Bannock Coal Co. Marietta Coal Co. R & F Coal Co.
568	Belmont	Bt-1188	D-0908	
569	Belmont	Bt-1189	D-0914	
570	Belmont	Bt-771	D-0771	
572	Belmont	Bt-1185	D-0862	
573	Carroll	Cl-248	D-0902	Regal Mining, Inc. Buckeye-Industrial Mining Co. Oxford Mining Co. Algem Coal Development Co., Inc. R & F Coal Co.
574	Columbiana	Ca-977	D-0851	
575	Coshocton	Cn-831	D-0870	
576	Coshocton	Cn-NE	D-0618	
577	Coshocton	Cn-RF	D-0689	
578	Coshocton	Cn-RR	D-0872	R & R Minerals, Inc. Harrison Mining Corp. R & F Coal Co. Valley Mining, Inc. Elk Coal Co.
580	Harrison	Hn-710	D-0426	
581	Harrison	Hn-748	D-0797	
582	Harrison	Hn-750	D-0901	
584	Jackson	Jkn-1065	D-0887	
586	Jefferson	Jfn-820	D-0894	D & L Contractors, Inc. Sands Mining Corp. Oxford Mining Co. Dennis Clay Co. Holmes Limestone Co.
587	Muskingum	Mum-900	D-0882	
588	Muskingum	Mum-901	D-0898	
590	Perry	Py-338	IM-1092	
592	Stark	Sk-H	D-0650	
594	Tuscarawas	Ts-2012	D-0869	Fairpoint Coal Co. Valley Mining, Inc. Empire Coal Co. Holmes Limestone Co. Kimble Clay & Limestone Co.
595	Tuscarawas	Ts-2014	D-0868	
596	Tuscarawas	Ts-2015	D-0866	
597	Tuscarawas	Ts-2017	D-0660	
598	Tuscarawas	Ts-2019	D-0852	
599	Tuscarawas	Ts-2020	D-0895	Miller Mining, Inc. Kimble Clay & Limestone Co. Holmes Limestone Co. Quality Coal Co., Addington, Inc. Frank Widmor Coal Co.
600	Tuscarawas	Ts-2022	D-0878	
601	Tuscarawas	Ts-2023	D-0796	
602	Vinton	Vn-191	D-0867	
603	Belmont	Bt-1190	IM-1089	
604	Belmont	Bt-AT	D-0922	Marietta Coal Co.
605	Belmont	Bt-C	D-0961	Cravat Coal Co.
606	Carroll	Cl-247	D-0817	Buckeye-Industrial Mining Co.
607	Carroll	Cl-249	D-0933	Myers Mining
608	Columbiana	Ca-850	D-0052	Buckeye-Industrial Mining Co.
609	Columbiana	Ca-892	D-0896	C & E Coal, Inc. Blum Coal Co. Commercial Minerals, Inc. P & O Coal Co. East Fairfield Coal Co.
611	Columbiana	Ca-979	D-0886	
612	Columbiana	Ca-981	D-0941	
613	Columbiana	Ca-983	D-0550	
614	Columbiana	Ca-984	D-0952	
615	Coshocton	Cn-C	D-0911	Cravat Coal Co. Oxford Mining Co. Krulock, Inc. R. T. G., Inc. Cravat Coal Co.
616	Coshocton	Cn-OX	D-0964	
617	Guernsey	Gy-311	D-0857	
618	Guernsey	Gy-313	D-0907	
619	Harrison	Hn-228	D-0934	
620	Harrison	Hn-238	D-0259	Jamie Mining Co.
621	Harrison	Hn-240	D-0917	Sunnydale Mining Co.
622	Harrison	Hn-751	D-0956	Mesa Coal Corp.
623	Jackson	Jkn-1069	D-0944	Sands Hill Coal Co., Inc.
624	Lawrence	Le-454	D-0927	Addington, Inc.
625	Mahoning	Mg-608	IM-4	E.M.A.I. Corp.
626	Noble	Ne-154	D-0900	B & N Coal. Inc.

COAL—Continued

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
627 628 629 630 631 632 633 634 635 636	Noble Noble Perry Stark Stark Stark Tuscarawas Tuscarawas Tuscarawas	Ne-155 Ne-B Py-B Sk-245 Sk-246 Sk-247 Sk-WM Ts-1939 Ts-2027 Ts-2028	D-0958 D-0932 D-0940 D-0653 IM-1114 D-0929 IM-1122 IM-47 D-0948 D-0935	B & N Coal, Inc. B & N Coal, Inc. Buckingham Mining & Reclamation, Inc. Buckeye-Industrial Mining Co. American Landfill, Inc. Buckeye-Industrial Mining Co. Valley Mining, Inc. Belden Brick Co. Miller Mining, Inc. James Bros. Coal Co.
637 638 639 640 641 642	Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas Tuscarawas	Ts-GC Ts-K4 Ts-MMI Ts-RM Ts-V Ts-WS	D-0967 D-0921 D-0923 D-0904 D-0912 D-0953	Miller Mining, Inc. Kimble Clay & Limestone Co. Miller Mining, Inc. Red Malcuit, Inc. Valley Mining, Inc. Miller Mining, Inc.

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
1 2 3 4 5	Belmont Belmont Belmont Belmont Columbiana	Bt-108 Bt-643 Bt-936 Bt-68 Ca-879	D-0328 D-0216 D-0360 D-0806	R & F Coal Co. Saginaw Mining Co. Marietta Coal Co. Ohio Valley Coal Co. Buckeye-Industrial Mining Co.
6	Columbiana	Ca-892	D-0599 D-0192 D-0347 D-0285	C & E Coal, Inc.
7	Coshocton	Cn-810		Conesville Coal Preparation Co.
8	Harrison	Hn-212		Consolidation Coal Co.
9	Jackson	Jkn-1055		Sands Hill Coal Co., Inc.
10	Jackson	Jkn-367		Waterloo Coal Co., Inc.
12	Jefferson	Jfn-647	D-0492	Ohio Coal & Construction Corp. East Fairfield Coal Co. Southern Ohio Coal Co. Quarto Mining Co. (subsidiary of Consolidation Coal Co.) Central Ohio Coal Co.
13	Mahoning	Mg-623	D-0214	
14	Meigs	Ms-293	D-0354	
15	Monroe	Me-4	D-0422	
16	Morgan	Ne-41	D-0420	
17	Perry	Py-248	D-0325	Peabody Coal Co.
18	Perry	Py-317	D-0248	Crooksville Coal Co., Inc.
19	Tuscarawas	Ts-115	D-0199	Empire Coal Co.
20	Tuscarawas	Ts-1938	D-0381	Central Fuel Co.
21	Tuscarawas	Ts-1942	D-0287	Horizon Coal Corp.
22	Vinton	Vn-145	D-0159	Benedict, Inc. Addington, Inc. Sands Hill Coal Co., Inc. Cravat Coal Co. Holmes Limestone Co.
23	Vinton	Vn-178	D-0185	
24	Vinton	Vn-641	D-0169	
26	Belmont	Bt-878	D-0230	
27	Wayne	Hs-79	D-0283	
28	Muskingum	Mum-239	D-0428	Sands Mining Corp.
29	Columbiana	Ca-9322	D-0532	Buckeye-Industrial Mining Co.
30	Harrison	Hn-169	D-0424	Harrison Processing Corp.

LIMESTONE/DOLOMITE

Map location number		County	State mine number		Division of Reclamation permit number		Name of operator
1 2 3 4 5	Adams Adams Allen Allen Allen		Ads-1 Ads-6 An-1 An-2 An-3	IM-237 IM-659 IM-485 IM-540 IM-484		Davon, Inc. Standard Lafarge Bluffton Stone Co. National Lime & Ston National Lime & Ston	

LIMESTONE/DOLOMITE—Continued

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
6 7 9 10	Allen Allen Athens Auglaize Auglaize	An-11 An-4 As-533 Ae-31 Ae-10	IM-541 IM-491 IM-17 IM-744 IM-486	National Lime & Stone Co. Suever Stone Co., Inc. R. A. Eberts Co., Inc. Con-Ag, Inc. National Lime & Stone Co.
12 13 14 15 16	Belmont Belmont Brown Carroll Clark	Bt-716 Bt-119 Bn-1 Cl-183 Ck-1	IM-1 IM-733 IM-7 IM-373	Ayers Limestone Quarry, Inc. Cravat Coal Co. Brown County Rock Crusher Puskarich Limestone, Inc. American Aggregates Corp.
17	Clinton	Cln-1	IM-241	Melvin Stone Co. National Lime & Stone Co. American Aggregates Corp. American Aggregates Corp. National Lime & Stone Co.
18	Crawford	Cd-1	IM-404	
19	Darke	Dke-1	IM-362	
20	Delaware	Del-4	IM-262	
21	Delaware	Del-5	IM-207	
22 23 24 25 26	Delaware Delaware Erie Erie Erie	Del-3 Del-2 Ee-27 Ee-11 Ee-1	IM-327 IM-299 IM-608 IM-263 IM-310	Owens Stone Co., Inc. (dba Delaware County Materials), American Aggregates Corp. Penry Stone Co. Erie Blacktop, Inc. Rogers Group, Inc. (dba Sandusky Crushed Stone Co.) Wagner Quarries Co.
27	Fayette	Fe-2	IM-169	American Aggregates Corp. Melvin Stone Co. American Aggregates Corp. American Aggregates Corp. American Aggregates Corp.
28	Fayette	Fe-1	IM-831	
29	Fayette	Fe-3	IM-329	
30	Franklin	Fn-2	IM-261	
31	Franklin	Fn-53	IM-185	
32	Greene	Ge-17	IM-435	American Aggregates Corp. Southwestern Portland Cement Co. Southwestern Portland Cement Co. Tarbox-McCall Stone Co. (Division of Hancock Ready Mix, Inc.) Hardin Quarry Co., Inc.
33	Clark, Greene	Ge-1	IM-393	
34	Greene	Ge-9	IM-364	
37	Hancock	Hk-2	IM-439	
38	Hardin	Hdn-2	IM-443	
41	Highland	Hd-2	IM-230	Davon, Inc. Ohio Asphaltic Limestone Corp. Marshall Quarry, Inc. Holmes Limestone Co. Holmes Limestone Co.
42	Highland	Hd-3	IM-253	
43	Highland	Hd-4	IM-406	
44	Holmes	Hs-67	IM-768	
45	Holmes, Wayne	Hs-79	IM-656	
47	Jackson	Jkn-367	IM-774	Waterloo Coal Co., Inc. Connolly Construction Co., Inc., American Aggregates Corp. C. E. Duff & Son, Inc. Northwood Stone & Asphalt Co. The France Stone Co.
49	Logan	Lgn-1	IM-574	
50	Logan	Lgn-15	IM-453	
51	Logan	Lgn-2	IM-494	
52	Lucas	Ls-1	IM-575	
53	Lucas	Ls-3	IM-580	The France Stone Co. Stoneco, Inc. Honey Creek Stone Co. E.M.A.I. Corp. J. M. Hamilton & Sons Co., Inc.
54	Lucas	Ls-2	IM-503	
56	Mahoning	Mg-54	IM-93	
57	Mahoning	Mg-608	IM-4	
59	Marion	Mn-2	IM-423	
60	Marion	Mn-3	IM-168	National Lime & Stone Co. Tri-County Limestone Co. Stoneco, Inc. S & S Aggregate, Inc. Piqua Materials, Inc.
61	Marion	Mn-1	IM-250	
62	Mercer	Mr-1	IM-592	
63	Mercer	Mr-2	IM-430	
64	Miami	Mi-1	IM-382	
65	Miami	Mi-16	IM-414	Gregory Stone Co., Inc. Barrett Paving Materials, Inc. C. F. Poeppelman, Inc. Christman Quarry American Aggregates Corp.
66	Miami	Mi-502	IM-414	
67	Miami	Mi-10	IM-335	
69	Monroe	Me-501	IM-76	
70	Montgomery	My-1	IM-374	
71	Montgomery	My-23	IM-368	American Aggregates Corp. Southwestern Portland Cement Co. Central Ohio Coal Co. Chesterhill Stone Co. Midwest Portland Cement Corp.
72	Montgomery	My-58	IM-330	
73	Morgan	Mon-600	IM-281	
75	Muskingum	Mum-106	IM-297	
76	Muskingum	Mum-24	IM-830	
.78	Muskingum	Mum-104	IM-277	Sidwell Bros., Inc.
79	Noble	Ne-106	IM-85	King Limestone, Inc.
80	Monroe, Noble	Ne-86	IM-70	Zerger's Quarry

LIMESTONE/DOLOMITE—Continued

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
82 83 84 85 86	Ottawa Ottawa Ottawa Ottawa Paulding	Oa-6 Oa-14 Oa-7 Oa-1 Pg-7	IM-296 IM-320 IM-440 IM-292	Edward Kraemer & Sons, Inc. Stoneco, Inc. Standard Lafarge GenLime Group, L. P. The France Stone Co.
87	Paulding	Pg-1	IM-513	Lafarge Corp. Stoneco, Inc. Maxville Quarries, Inc. Latham Limestone, Inc. Melvin Stone Co.
88	Paulding	Pg-2	IM-481	
89	Perry	Py-235	IM-11, IM-515	
91	Pike	Pke-13	IM-213	
92	Pickaway	Pky-4	IM-209	
95	Preble	Pre-5	IM-447	Wysong Stone Co. Putnam Stone Co. Gottron Bros. Co. Martin Marietta Magnesia Specialties, Inc. Steetley Quarry Products U.S., Inc., Ohio Lime Co.
98	Putnam	Pm-2	IM-570	
101	Sandusky	Sy-5	IM-259	
102	Sandusky	Sy-1	IM-537	
103	Sandusky	Sy-4	IM-381	
104	Sandusky	Sy-3	IM-282	Steetley Quarry Products U.S., Inc., Ohio Lime Co.
106	Seneca	Sa-2	IM-352	Maple Grove Stone Co.
107	Seneca	Sa-1	IM-347	The France Stone Co.
108	Seneca	Sa-3	IM-349	The France Stone Co.
109	Seneca	Sa-8	IM-313	North Shore Stone Quarries, Inc.
110	Shelby	Shy-6	IM-389	Miami River Stone Co.
111	Shelby	Shy-16	IM-411	Sidney Sand & Gravel Co.
112	Shelby	Shy-15	IM-387	Spring Creek Corp.
113	Stark	Sk-663	IM-5	East Ohio Limestone Co.
117	Tuscarawas	Ts-1818	IM-9	Kimble Clay & Limestone Co.
118	Tuscarawas	Ts-1928	IM-98	Sugarcreek Clay & Limestone, Inc.
119	Union	Un-1	IM-208	Northwood Stone & Asphalt Co.
120	Union	Un-2	IM-236	Union Aggregates Co.
121	Van Wert	Vt-3	IM-495	Stoneco, Inc.
122	Van Wert	Vt-7	IM-642	Ridge Township Quarry
123	Van Wert	Vt-1	IM-500	Suever Stone Co., Inc.
124	Vinton	Vn-174	D-0309	G & M Supply, Inc. (dba Clinton Stone, Inc.)
129	Wood	Wd-5	IM-473	The France Stone Co.
130	Wood	Wd-1	IM-548	MacRitchie Materials, Inc.
131	Wood	Wd-6	IM-480	Stoneco, Inc.
132 133 134 135 142	Wood Wyandot Wyandot Greene	Wd-11 Wt-3 Wt-1 Wt-8 Ge-25	IM-475 IM-298 IM-405 IM-273 IM-437	Stoneco, Inc. McCarthy Stone Quarry National Lime & Stone Co. Wyandot Dolomite, Inc. American Aggregates Corp.
143	Montgomery	My-32	IM-1012	American Aggregates Corp.
144	Muskingum	Mum-269	IM-1009	Salt Creek Materials, Inc.
145	Erie	Ee-31	IM-1044	Wagner Quarries Co.
146	Coshocton	Cn-830	IM-1049	Sidwell Bros., Inc.
147	Guernsey, Muskingum	Gy-309	IM-1030	King Limestone, Inc.
148	Vinton	Vn-190	D-0761	Quality Stone Co.
149	Hancock	Hk-7	IM-1002	National Lime & Stone Co.
151	Belmont	Bt-L	IM-1093	Lakeland Construction
152	Belmont	Bt-1190	IM-1089	Frank Widmor Coal Co.
153	Coshocton	Cn-A	IM-1011	All Stone Co.
154	Franklin	Fn-43	IM-188	Olen Corp. American Aggregates Corp. Standard Lafarge Holmes Limestone Co. Sands Hill Coal Co., Inc.
155	Greene	Ge-45	IM-364	
156	Hardin	Hdn-S	IM-1034	
157	Holmes	Hs-H	IM-1104	
158	Jackson	Jkn-SH	IM-1068	
159	Lawrence	Le-A	IM-1072	Addington, Inc. E.M.A.I. Corp. Petersburg Stone Co. E.M.A.I. Corp. Christman Quarry
160	Lucas	Ls-12	IM-953	
161	Mahoning	Mg-629	IM-1008	
162	Mahoning	Mg-EM	IM-1056	
163	Monroe	Me-C	IM-1088	
164	Monroe	Me-509	IM-1094	Rubel Quarry, Inc.
165	Morgan	Mon-C	IM-1010	Central Ohio Coal Co.
166	Muskingum	Ne-C	D-0820	Central Ohio Coal Co.

LIMESTONE/DOLOMITE—Continued

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
167	Noble	Ne-S	IM-913	Sharon Stone Co. Maxville Quarries, Inc. Green Basin Coal, Inc. L & M Mineral Co. East Fairfield Coal Co.
168	Perry	Py-343	IM-1061	
169	Tuscarawas	Ts-2024	IM-1087	
170	Tuscarawas	Ts-1982	IM-621	
171	Mahoning	Mg-E	IM-1103	
172	Licking	Lg-8	IM-271	Alexandria Materials Co.
173	Adams	Ads-H	IM-805	Holloway Sand & Gravel Co., Inc.

SAND AND GRAVEL DREDGING OPERATION Δ

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
$\frac{1}{2}$.		Ee-D Lke-D		Erie Sand & Gravel Co. Osborne Materials Co.

SAND AND GRAVEL A

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
2	Allen	An-15	IM-721	Ward Materials, Inc.
6	Ashland	Ald-9	IM-0745	Ries Sand & Gravel
8	Ashland	Ald-7	IM-392	Young's Sand & Gravel Co.
9	Ashtabula	Asa-10	IM-198	Frye Sand & Gravel, Inc.
10	Ashtabula	Asa-14	IM-563	Janson Soil Service, Inc.
11	Ashtabula	Asa-17	IM-886	Kinsman Sand & Gravel Co.
14	Ashtabula	Asa-12	IM-911	Nelson Sand & Gravel, Inc.
15	Ashtabula	Asa-15	IM-783	R. W. Sidley, Inc.
19	Athens	As-588	IM-630	Black Top Contracting, Inc.
21	Athens	As-1161	IM-97	Lake Hope Asphalt, Inc.
23	Auglaize	Ae-23	IM-508	Joseph Sand & Gravel National Lime & Stone Co. Quality Ready Mix, Inc. Tri-State Asphalt Products V. I. P. Contractors, Inc.
24	Auglaize	Ae-30	IM-598	
25	Auglaize	Ae-16	IM-595	
26	Belmont	Bt-74	IM-288	
28	Butler	Br-36	IM-649	
29	Butler	Br-5	IM-153	American Aggregates Corp. American Aggregates Corp. Broshear Contractors, Inc. Dingledine Basic Materials, Inc. Dravo Basic Materials Co., Inc.
30	Butler	Br-35	IM-200	
31	Butler	Br-48	IM-562	
32	Butler	Br-50	IM-739	
33	Butler	Br-14	IM-147	
34	Butler	Br-29	IM-149	Dravo Basic Materials Co., Inc.
37	Butler	Br-40	IM-493	Indian Creek Sand & Gravel Co.
38	Butler	Br-52	IM-814	Shamrock Gravel Co.
39	Butler	Br-15	IM-316	Mecco, Inc.
41	Butler	Br-6	IM-177	Weidle Sand & Gravel, Inc.
42	Butler	Br-3	IM-719	The Gravel Co. Watson Gravel, Inc. Welch Sand & Gravel, Inc. Oneida Sand & Gravel, Inc. American Aggregates Corp.
44	Butler	Br-47	IM-111	
45	Butler	Br-38	IM-218	
47	Carroll	Cl-204	IM-554	
48	Champaign	Cpn-1	IM-371	
49	Champaign	Cpn-21	IM-616	D & W Sand & Gravel Mechanicsburg Sand & Gravel, Inc. Moore's Excavating Co. American Aggregates Corp. Demmy Sand & Gravel Hilltop Basic Resources, Inc. (dba Enon Washed Sand & Gravel Co.)
50	Champaign	Cpn-22	IM-889	
51	Champaign	Cpn-20	IM-482	
52	Clark	Ck-13	IM-366	
54	Clark	Ck-502	IM-375	
57	Clark	Ck-3	IM-463	

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
58	Clark	Ck-25	IM-358	Springfield Sand & Gravel Co. Barrett Paving Materials, Inc. Kipp's Gravel Co., Inc. Beaver Creek Resources, Inc. X L Sand & Gravel
59	Clermont	Ct-9	IM-526	
61	Clermont	Ct-7	IM-432	
64	Columbiana	Ca-855	IM-891	
68	Columbiana	Ca-881	IM-611	
69	Coshocton	Cn-718	IM-227	Apache Aggregate & Paving Co. Apache Aggregate & Paving Co. Boyd Gravel Co. Sugarcreek Clay & Limestone, Inc. Gibson Sand & Gravel Co.
70	Coshocton	Cn-783	IM-717	
71	Coshocton	Cn-694	IM-293	
72	Coshocton	Cn-624	IM-243	
75	Crawford	Cd-3	IM-693	
80 81 82 83 84	Darke Darke Defiance Erie Erie	Dke-4 Dke-10 De-2 Ee-18 Ee-29	IM-433 IM-326 IM-765 IM-676	Foureman's Sand & Gravel, Inc. Tom Hollinger Excavating Hillsdale Sand & Gravel, Inc. Elmer Borchardt, Inc. Jarrett Sand Co.
85 86 87 92 94	Erie Erie Erie Fairfield Franklin	Ee-5 Ee-24 Ee-28 Fd-13 Fn-36	IM-915 IM-601 IM-848 IM-302	Keener Sand & Clay Co. Mesenburg Bros., Inc. Miller Sand Co. Lancaster Sand & Gravel Co. Agg Rok Materials (Division of Wapak Sand & Gravel Co.)
95	Franklin	Fn-6	IM-185	American Aggregates Corp. American Aggregates Corp. Big Walnut Sand & Gravel Co. J. P. Sand & Gravel Co. L. & M. Excavators, Inc.
96	Franklin	Fn-23	IM-183	
97	Franklin	Fn-14	IM-832	
98	Franklin	Fn-52	IM-191	
99	Franklin	Fn-54	IM-847	
100	Franklin	Fn-11	IM-234	Mason's Sand & Gravel Co. S & S Aggregate, Inc. Olen Corp. Haueter Sand & Gravel, Inc. Teague Gravel Co., Inc.
101	Franklin	Fn-24	IM-266	
102	Franklin	Fn-43	IM-188	
108	Geauga	Gea-29	IM-215	
109	Geauga	Gea-35	IM-321	
110	Greene	Ge-33	IM-379	American Aggregates Corp.
112	Clark, Greene	Ge-4	IM-394	Hilltop Basic Resources, Inc.
115	Greene	Ge-36	IM-305	Phillips Sand & Gravel
117	Greene	Ge-10	IM-518	Xenia Sand, Gravel, & Asphalt Co.
118	Hamilton	Hmn-37	IM-170	American Aggregates Corp.
119	Hamilton	Hmn-AAC	IM-716	American Aggregates Corp. Ashcraft Sand & Gravel, Inc. Barrett Paving Materials, Inc. James Bunnell, Inc. James Bunnell, Inc.
120	Hamilton	Hmn-54	IM-710	
121	Hamilton	Hmn-44	IM-120	
123	Hamilton	Hmn-50	IM-205	
124	Hamilton	Hmn-59	IM-815	
126	Hamilton	Hmn-3	IM-137, IM-801	Dravo Basic Materials Co., Inc.
127	Hamilton	Hmn-5	IM-148	Dravo Basic Materials Co., Inc.
128	Hamilton	Hmn-11, Hmn-70	IM-133	Dravo Basic Materials Co., Inc.
131	Hamilton	Hmn-68	IM-747	Dravo Basic Materials Co., Inc.
132	Hamilton	Hmn-46	IM-396	Eaton Sand & Gravel Co.
135	Hamilton	Hmn-17	IM-295	Harrison Sand & Gravel Co. Bertha A. Leonard Rack Sand, Inc. The Gravel Co. Watson Gravel, Inc.
137	Hamilton	Hmn-67	IM-529	
139	Hamilton	Hmn-10	IM-226	
141	Hamilton	Hmn-28	IM-353	
142	Hamilton	Hmn-60	IM-761	
143 144 147 150 151	Hamilton Hamilton Henry Hocking Hocking	Hmn-42 Hmn-48 Hy-5 Hg-296 Hg-262	IM-823 IM-220 IM-559 IM-41	Welch Sand & Gravel, Inc. Welch Sand & Gravel, Inc. Gerken Materials, Inc. Hocking County Engineer Hocking Valley Concrete, Inc.
152	Hocking	Hg-301	IM-458	Muskingum River Gravel Co.
153	Holmes	Hs-82	IM-707	Menuez Bros. Sand & Gravel, Inc.
154	Holmes	Hs-511	IM-345	Feikert Sand & Gravel, Inc.
157	Huron	Hrn-1	IM-550	Rogers Group, Inc. (dba Norwalk Sand & Gravel)
159	Knox	Kx-13	IM-343	S & S Aggregate, Inc.
160	Knox	Kx-7	IM-235	Goodwin Sand & Gravel, Inc.
161	Knox	Kx-16	IM-793	Olen Corp.
162	Knox	Kx-5	IM-884	Mickley Gravel Co.

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
163	Knox	Kx-3	IM-300	Sant Sand & Gravel, Inc.
165	Knox	Kx-15	IM-967	Small's Sand & Gravel, Inc.
166	Lake	Lke-7	IM-162	R. W. Sidley, Inc.
167	Lawrence	Le-430	IM-844	Becky Lane Trucking, Inc.
170	Lawrence	Le-426	IM-856	Burlington Sand & Gravel Co.
173	Licking	Lg-8	IM-271	Alexandria Materials Co.
174	Licking	Lg-2	IM-184	American Aggregates Corp.
176	Licking	Lg-31	IM-246	Dry Creek Gravel Co.
177	Licking	Lg-DC	IM-354	Dry Creek Gravel Co.
179	Licking	Lg-10	IM-217	Van Wey Sand & Gravel, Inc.
180 181 182 183 189	Licking Licking Logan Logan Logan	Lg-15 Lg-38 Lgn-31 Lgn-39 Lgn-6	IM-695 IM-454 IM-887 IM-459	Walter's Gravel York Road Gravel Co. C. E. Duff & Son, Inc. C. E. Duff & Son, Inc. Neer's Sand & Gravel
190	Logan	Lgn-38	IM-881	Cummins Family Contracting
191	Lorain	Ln-12	IM-731	John W. Belu
195	Lucas	Ls-13	IM-492	Seaway Sand & Stone, Inc.
196	Mahoning	Mg-S	IM-808	Solomon's Mines, Inc.
197	Marion	Mn-16	IM-171	Scioto Sand & Gravel
198	Marion	Mn-4	IM-290	Penry Stone Co. Union Aggregates Co. Union Aggregates Co. Baker Sand, Inc. Ramsier Sand & Gravel
200	Marion	Mn-10	IM-196	
201	Marion	Mn-12	IM-197	
203	Medina	Ma-20	IM-448	
205	Medina	Ma-12	IM-516	
206 208 209 210 211	Medina Medina Meigs Meigs Meigs	Ma-22 Ma-16 Ms-205 Ms-295 Ms-301	IM-425, IM-650, IM-651 IM-30 IM-619	Seville Sand & Gravel, Inc. Silchuk Gravel Co. Dravo Basic Materials Co., Inc. Humphrey Farms Meigs County Commissioners
212 216 217 219 220	Meigs Miami Miami Miami Miami	Ms-298 Mi-6 Mi-501 Mi-3 Mi-8	IM-32 IM-356 IM-462 IM-355	Richards & Son, Inc. American Aggregates Corp. New Carlisle Sand & Gravel Co. American Aggregates Corp. American Aggregates Corp.
221	Miami	Mi-9	IM-408	Wise Gravel Fenner Sand & Gravel, Inc. American Aggregates Corp. Broadway Sand & Gravel, Inc. H & H Utilities Co.
222	Miami	Mi-4	IM-472	
224	Montgomery	My-66	IM-677	
225	Montgomery	My-65	IM-594	
229	Montgomery	My-68	IM-646	
232	Montgomery	My-19	IM-401	Hilltop Basic Resources, Inc. Miller Bros. Gravel, Inc. Northmont Sand & Gravel Co. Sco-Mac Development Tipp Stone Co., Inc.
233	Montgomery	My-52	IM-348	
235	Montgomery	My-49	IM-370	
236	Montgomery	My-55	IM-571	
238	Montgomery	My-61	IM-468	
239 240 241 242 243	Montgomery Morgan Morgan Morrow Muskingum	My-41 Mon-588 Mon-599 Mw-10 Mum-863	IM-360 IM-35 IM-258 IM-264	Weidle Sand & Gravel, Inc. Chesterhill Stone Co. Huck Farms Chesterville Sand & Gravel Co., Inc. The Shelly Co., Cox Gravel Division
244	Muskingum	Mum-799	IM-317	The Shelly Co., Cox Gravel Division
247	Muskingum	Mum-228	IM-421	Muskingum River Gravel Co.
248	Muskingum	Mum-216	IM-689	Salt Creek Materials, Inc.
251	Pickaway	Pky-1	IM-409, IM-428, IM-668	American Aggregates Corp.
252	Pike	Pke-26	IM-142	Valley Materials Co.
253	Pike	Pke-23	IM-242	Chattin Concrete
254	Pike	Pke-30	IM-786	Gregory Materials Co.
255	Pike	Pke-24	IM-222	Standard Lafarge
256	Portage	Pe-50	IM-96	Beck Sand & Gravel, Inc.
257	Portage	Pe-15	IM-104	Karl Brugmann Sand & Gravel, Inc.
258	Portage	Pe-9	IM-119	Oscar Brugmann Sand & Gravel, Inc.
259	Portage	Pe-17	IM-123	Charlestown Sand & Gravel, Inc.
260	Portage	Pe-84	IM-868	Aurora Sand & Gravel, Inc.

Map location number		State mine number	Division of Reclamation permit number	Name of operator
261	Portage	Pe-45	IM-139	R. A. Cruise Sand & Gravel, Inc.
262	Portage	Pe-56	IM-127	Hilltop Aggregate, Inc.
264	Portage	Pe-10	IM-138	Hugo Sand Co.
265	Portage	Pe-63	· IM-82	Jefferson Materials Co.
266	Portage	Pe-83	IM-179	Karg Sand & Gravel Co.
268	Portage	Pe-40	IM-190	Lakeside Sand & Gravel Co. Miller Sand & Gravel Co. Northern Ohio Materials, Inc. Schloss Paving Co. Sober Sand & Gravel Co.
272	Portage	Pe-39	IM-174	
273	Portage	Pe-85	IM-700	
274	Portage	Pe-60	IM-78	
275	Portage	Pe-18	IM-193	
276	Portage	Pe-36	IM-90	Solon Excavators Sand & Gravel, Inc. Standard Lafarge Standard Lafarge Rainbow Sand & Gravel, Inc. S & S Aggregate, Inc.
277	Portage	Pe-68	IM-143, IM-687	
278	Portage	Pe-SS1	IM-660	
280	Portage	Pe-64	IM-229	
281	Portage	Pe-59	IM-210	
282	Portage	Pe-67	IM-202	S & S Aggregate, Inc. Southern Ohio Aggregates Wysong Gravel Co. Wysong Gravel Co. D. H. Bowman & Sons, Inc.
284	Preble	Pre-7	IM-306	
285	Preble	Pre-4	IM-477	
286	Preble	Pre-6	IM-478	
287	Richland	Rd-4	IM-279	
289	Richland	Rd-18	IM-670	Ganges Gravel John L. Garber Materials, Inc. Elm Spring Farm E. E. Blair Construction Co. Cunningham Asphalt Paving, Inc.
290	Richland	Rd-14	IM-436	
297	Ross	Rs-26	IM-922	
303	Scioto	So-98	IM-474	
304	Scioto	So-83	IM-211	
305 306 310 311 312	Scioto Scioto Shelby Shelby Shelby	So-78 So-79 Shy-12 Shy-17 Shy-13	IM-221 IM-528 IM-389 IM-412	Schilling Contractors, Inc. Standard Lafarge Fleckenstein Farm Gravel Pit Miami River Stone Co. Sidney Sand & Gravel Co.
314	Shelby	Shy-11	IM-743	Spring Creek Corp. Spring Creek Corp. Northern Ohio Paving Co. Canton Aggregate Canton Aggregate
315	Shelby	Shy-18	IM-388	
316	Stark	Sk-N	IM-156	
318	Stark	Sk-681	IM-164	
319	Stark	Sk-689	IM-173	
320	Stark	Sk-694	IM-858	A. J. Diana Sons, Inc.
323	Stark	Sk-688	IM-763	Heiser Sand & Gravel
325	Stark	Sk-607	IM-102	Massillon Washed Gravel Co.
326	Stark	Sk-165	IM-192, IM-781	Oster Sand & Gravel, Inc.
327	Summit	St-52	IM-900	Flesher Sand & Gravel, Inc.
328	Summit	St-39	IM-983	Lerkis Asphalt Co., Inc.
330	Summit	St-46	IM-557	H. M. Miller Construction Co.
333	Summit	St-24	IM-239	Riverside Sand & Gravel Co., Inc.
334	Summit	St-9	IM-167	Rubber City Sand & Gravel Co.
335	Summit	St-26	IM-803	Spring Valley Investments, Inc.
336	Summit	St-44	IM-178	S & S Aggregate, Inc.
337	Summit	St-29	IM-203	American Sand & Gravel
340	Ashtabula, Trumbull	TI-12	IM-131	Samco, Inc.
342	Tuscarawas	Ts-1852	IM-75	Oster Sand & Gravel, Inc.
343	Tuscarawas	Ts-1826	IM-88	Soehnlen Bros. Sand & Gravel, Inc.
344	Tuscarawas	Ts-1771	IM-77	Spring Industries, Inc. Spring Industries, Inc. Stewart & Reichman, Inc. Stocker Sand & Gravel Co. Stocker Sand & Gravel Co.
345	Tuscarawas	Ts-1788	IM-73	
346	Tuscarawas	Ts-111	IM-55	
347	Tuscarawas	Ts-69	IM-51	
348	Tuscarawas	Ts-125	IM-50	
349 352	Warren Warren	Wan-38 Wan-41	IM-615 IM-629	American Aggregates Corp. Dravo Basic Materials Co., Inc., Carl E. Oeder & Sons Sand & Gravel
356 357 363	Warren Warren	Wan-47 Wan-8 Wan-10	IM-846 IM-240 IM-465	C & S Contractors, Inc. L & I Natural Resources, Inc. Watson Gravel, Inc.
364	Washington	Wn-55	IM-669	Beverly Slag Co.
365	Washington	Wn-508	IM-57	Briggs Sand & Gravel, Inc.

Map location number	County	State . mine number	Division of Reclamation permit number	Name of operator
367 369 370 371	Washington Washington Washington Washington	Wn-38 Wn-510 Wn-43 Wn-44	IM-701 IM-25 IM-61 IM-63	Muskingum River Gravel Co. Trout Sand & Gravel Co. Union Slag Corp. Union Slag Corp., Coprolite Sand & Gravel Corp. Prairie Lane Sand & Gravel Co.
372 373 374 375 376	Wayne Wayne Wayne Williams Williams	We-11 We-7 We-15 Ws-6 Ws-9	IM-547 IM-471 IM-398 IM-497 IM-498	Rupp Construction, Inc. Zollinger Sand & Gravel Co. Stoneco, Inc. Stoneco, Inc.
377	Defiance, Williams	Ws-11	IM-509, IM-661	Weber Sand & Gravel, Inc.
378	Williams	Ws-14	IM-614	Dennis Winzeler
379	Wyandot	Wt-4	IM-520	Precision Aggregate, Inc.
380	Wyandot	Wt-5, Wt-15	IM-376	National Lime & Stone Co.
381	Wyandot	Wt-18	IM-551	National Lime & Stone Co.
382	Wyandot	Wt-17	IM-604	Kirby's Sand & Gravel, Inc.
384	Summit	St-53	IM-874	Portage Lakes Sand & Gravel Co. Demmy Construction, Inc. American Sand & Gravel American Sand & Gravel D & D Sand Bank
385	Clark	Ck-501	IM-340	
386	Stark	Sk-203	IM-654	
387	Portage	Pe-ASG	IM-212	
388	Lawrence	Le-445	IM-928	
389	Tuscarawas	Ts-1976	IM-941, IM-942	Benco Leasing, Inc.
390	Miami	Mi-T	IM-696	Barrett Paving Materials, Inc.
395	Scioto	So-100	IM-760	Scioto Valley Resources
396	Muskingum	Mum-261	IM-957	Lazy Acre Farms, Inc.
401	Fairfield	Fd-14	IM-933	Paul D. Beery Trucking Co.
403	Greene	Ge-40	IM-923	Donald Martin Contracting American Aggregates Corp. American Aggregates Corp. Crates Excavating Whitewater Aggregates, Inc., American Aggregates Corp.
404	Greene	Ge-42	IM-954	
405	Greene	Ge-32	IM-400	
406	Hardin	Hdn-5	IM-907	
407	Hamilton	Hmn-69	IM-969	
408	Knox	Kx-17	IM-968	Small's Sand & Gravel, Inc. Bolin & Bartley, Inc. Luburgh, Inc. Cooper Sand & Gravel Young's Sand & Gravel Co.
409	Richland	Rd-20	IM-617	
410	Muskingum	Mum-267	IM-914	
411	Logan	Lgn-40	IM-996	
412	Ashland	Ald-15	IM-944	
413	Ashtabula	Asa-18	IM-949	North Ridge Materials
415	Geauga	Gea-9	IM-132	Soltis Sand & Gravel
416	Holmes	Hs-96	IM-997	Spring Run Farm & Gravel
417	Huron	Hrn-16	IM-975	Erie Blacktop, Inc.
419	Licking	Lg-504	IM-991	Gary Roberts Excavating
420	Logan	Lgn-36	IM-1007	C. E. Duff & Son, Inc. Maumee Haulers & Excavating, Inc. Fleming Construction Co., Inc. B & D Paving Co. R & S, Inc.
422	Lucas	Ls-26	IM-1016	
423	Marion	Mn-F	IM-990	
424	Monroe	Me-508	IM-1000	
427	Summit	St-54	IM-934	
428	Tuscarawas	Ts-2001	IM-1004	Newton Asphalt Paul N. Herdman L & I Natural Resources, Inc. Atlas Towing Co. Barrett Paying Materials, Inc.
429	Warren	Wan-46	IM-679	
430	Warren	Wan-50	IM-1006	
432	Washington	Wn-54	IM-383	
434	Hamilton	Hmn-56	IM-631	
435	Stark	Sk-173	IM-879	Allied Corp., Inc. City of Springfield William Albert, Inc. Cremeans Concrete & Supply Watson Gravel, Inc.
437	Clark	Ck-7	IM-449	
438	Coshocton	Cn-828	IM-1026	
440	Gallia	Ga-626	IM-1046	
441	Greene	Ge-38	IM-333	
442	Geauga	Gea-39	IM-1104	B-M Machine Co. Solon Excavators Sand & Gravel, Inc. C. E. Duff & Son, Inc. Tipp Stone Co., Inc. Stillwater Sand & Gravel, Inc.
443	Geauga	Gea-40	IM-977	
444	Logan	Lgn-12	IM-1193	
446	Miami	Mi-12	IM-467	
447	Miami	Mi-504	IM-1032	
448 449 451	Muskingum Muskingum Perry	Mum-262 Mum-899 Pe-89	IM-422 IM-1142	Muskingum River Gravel Co. The Shelly Co., Cox Gravel Division Green Oaks Potting Products

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
452 453 455 456 457	Ross Stark Stark Wood Ashtabula	Rs-M Sk-241 Sk-243 Wd-13 Asa-13	IM-114 IM-582 IM-908 IM-998	Muskingum River Gravel Co. Standard Lafarge American Sand & Gravel G. M. Sader Excavating & Paving, Inc. Fred J. Dreslinski
458	Athens	As-595	IM-1083	Cochran Transportation Services, Inc. Weber Aggregates Southern Ohio Aggregates, Inc. Barrett Paving Materials, Inc. Demmy Construction, Inc.
459	Athens	As-W	IM-979	
460	Butler	Br-S	IM-1053	
461	Clark	Ck-B	IM-1100	
462	Clark	Ck-D	IM-1038	
463	Columbiana	Ca-K	IM-1108	Kelly Coal Co.
464	Columbiana	Ca-U	IM-999	United Builders Distributing Corp.
465	Franklin	Fn-58	IM-1023	Olen Corp.
466	Gallia	Ga-O	IM-1028	Ours Sand & Gravel
467	Hamilton	Hmn-AS	IM-1106	Allgeier & Son, Inc.
468	Hamilton	Hmn-D	IM-1079	Dravo Basic Materials Co., Inc. Crates Excavating Jones Sand & Gravel Co. Atlantic Investment Co. H. T. Griffin Excavating, Inc.
469	Hardin	Hdn-C	IM-1081	
470	Holmes	Hs-J	IM-1043	
471	Lucas	Ls-AI	IM-1058	
472	Lucas	Ls-G	IM-1090	
473	Lucas	Ls-SS	IM-1069	Seaway Sand & Stone, Inc. Tuffco Sand & Gravel, Inc. Dave Sugar, Inc. Petersburg Stone Co. Chesterhill Stone Co.
474	Madison	Mdn-T	IM-1063	
475	Mahoning	Mg-630	IM-1091	
476	Mahoning	Mg-629	IM-1008	
478	Morgan	Mon-CS	IM-1105	
479	Pickaway	Pky-7	IM-1067	Darby Gravel William A. Hoffman, Jr. Richards Farms, Inc. Red Brush Peat Co. Don Wartko Construction, Inc.
480	Pickaway	Pky-H	IM-1039	
481	Pickaway	Pky-R	IM-993	
482	Portage	Pe-61	IM-1064	
483	Portage	Pe-92	IM-522	
484	Portage	Pe-J	IM-1099	Johnson Rd. Sand & Gravel
486	Portage	Pe-SE	IM-1096	Solon Excavators Sand & Gravel, Inc.
487	Portage	Pe-SS2	IM-1047	Standard Lafarge
488	Preble	Pre-9	IM-1095	Loxley Aggregates, Inc.
489	Richland	Rd-L	IM-1086	Carroll Lifer Excavating, Inc.
490	Ross	Rs-27	IM-1098	Chillicothe Sand & Gravel Co.
491	Ross	Rs-H	IM-1052	Haubeil & Sons Asphalt & Materials, Inc.
493	Shelby	Shy-S	IM-1005	Sidney Sand & Gravel Co.
494	Shelby	Shy-SC	IM-1018	Spring Creek Gravel Co., Inc.
495	Stark	Sk-M	IM-1031	Massillon Materials, Inc.
496	Summit	St-55	IM-932	Alden Sand & Gravel Co. M. & G. Supply Co. Lerkis Asphalt Co., Inc. & Subsidiary Kleese Development Associates, Inc. Zink Petroleum Corp. (dba State Rte. 416 Sand & Gravel)
497	Summit	St-56	IM-1073	
498	Summit	St-L	IM-1027	
499	Trumbull	TI-K	IM-1101	
500	Tuscarawas	Ts-2018	IM-1076	
501	Warren	Wan-M	IM-728, IM-1065	Morrow Gravel Co.
502	Warren	Wan-M1	IM-1051	Morrow Gravel Co.
503	Warren	Wan-M2	IM-837	Morrow Gravel Co.
504	Washington	Wn-1007	IM-1042	Mark Williams Blacktop Co., Inc.
505	Washington	Wn-Wn	IM-989	Washington County Engineer
506	Williams	Ws-T	IM-1022	Takacs Excavating Cedar Heights Clay Co. David B. Good Bolin & Bartley, Inc. Nelson Sand & Gravel, Inc.
507	Gallia	Ga-507	IM-1074	
508	Ashland	Ald-G	IM-1121	
509	Ashland	Ald-16	IM-1120	
510	Ashtabula	Asa-N	IM-1109	
511	Carroll	Cl-183	IM-7	Puskarich Limestone, Inc. National Aggregates, Inc. J & A Excavating Craig E. Lammert Thompson Bros. Mining Co.
512	Carroll	Cl-N	IM-641	
513	Champaign	Cpn-J	IM-1133	
514	Columbiana	Ca-L	IM-1126	
515	Columbiana	Ca-T	IM-1138	
516	Delaware	Del-S	IM-1118	Michael B. Sayers
517	Geauga	Gea-N	IM-1123	Newbury Sand & Gravel
518	Geauga	Gea-TK	IM-902	T & K Kuhnle Co.

SAND AND GRAVEL—Continued

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
519	Hamilton	Hmn-B	IM-1139	James Bunnell, Inc.
520	Hamilton	Hmn-C	IM-1132	C. Carmical Sand & Gravel
521	Hamilton	Hmn-AS1	IM-797	Allgeier & Son, Inc.
522	Hocking	Hg-328	IM-1113	Robert Tripp
523	Hocking	Hg-329	IM-1112	Kilbarger Construction, Inc.
524	Holmes	Hs-B	IM-1131	Bada, Inc. JTO, Inc. Miller Bros. Construction, Inc. Timothy L. Bolduc Sunshine Sand Co.
525	Lake	Lke-J	IM-1128	
526	Logan	Lgn-M	IM-799	
527	Lucas	Ls-TB	IM-1116	
528	Portage	Pe-SSC	IM-318	
529	Portage	Pe-96	IM-792	Don's Dozer Service Ross County Gravel Co. Larkin Sewer Contractors, Inc. Burrgett Industries, Inc. Grimes Excavating
530	Ross	Rs-R	IM-1143	
531	Tuscarawas	Ts-L	IM-1125	
532	Tuscarawas	Ts-2029	IM-1129	
533	Washington	Wn-1008	IM-1111	
534	Washington	Wn-1009	IM-525	Mark Williams Blacktop Co., Inc.
535	Wayne	We-S	IM-1136	Steven R. Steiner

SANDSTONE/CONGLOMERATE ▼

Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
1	Carroll	Cl-102	IM-278	Conotton Valley Quarries Co.
3	Columbiana	Ca-855	IM-891	Beaver Creek Resources, Inc.
4	Coshocton	Cn-13	IM-397	Briar Hill Stone Co.
5	Coshocton	Cn-659	IM-232	Briar Hill Stone Co.
6	Coshocton	Cn-686	IM-504	Briar Hill Stone Co.
7	Coshocton	Cn-692	IM-294	Briar Hill Stone Co.
8	Coshocton	Cn-695	IM-402	Briar Hill Stone Co.
13	Cuyahoga	Cya-42	IM-686	Boyas Excavating, Inc.
14	Erie	Ee-21	IM-416	Cleveland Quarries Co.
17	Geauga	Gea-3	IM-89	Best Sand Corp.
18	Geauga	Gea-1	IM-163	R. W. Sidley, Inc. Briar Hill Stone Co. Mesenburg Bros., Inc. Briar Hill Stone Co. Central Silica Co.
19	Holmes	Hs-49	IM-418	
20	Huron	Hrn-8	IM-268	
23	Knox	Kx-12	IM-445	
24	Knox	Kx-1	IM-269	
27	Lorain	Ln-3	IM-415	Cleveland Quarries Co.
30	Mahoning	Mg-62	IM-599	Gwin Contracting Co.
34	Ross	Rs-16	IM-172	Southern Silica, Inc.
36	Scioto	So-48	IM-140	Waller Bros. Stone Co.
37	Scioto	So-76	IM-141	Waller Bros. Stone Co.
38	Scioto	So-82	JM-158	Waller Bros. Stone Co.
40	Trumbull	Tl-13	IM-777	Hard Rocks, Inc.
41	Tuscarawas	Ts-1818	IM-9	Kimble Clay & Limestone Co.
42	Tuscarawas	Ts-1660	IM-68	U.S. Silica Co.
43	Washington	Wn-45	IM-125	Alan Stone Co., Inc.
44	Coshocton	Cn-815	IM-939	Briar Hill Stone Co.
45	Pike	Pke-31	IM-835	Schrader Sand & Gravel
46	Coshocton	Cn-809	IM-909	Briar Hill Stone Co.
47	Columbiana	Ca-970	IM-1024	M & M Builders Supply Co.
48	Perry	Py-344	IM-1014	Central Silica Co.
49	Summit	St-24	IM-239	Riverside Sand & Gravel Co., Inc.
50	Geauga	Gea-N	IM-1123	Newbury Sand & Gravel
51	Belmont	Bt-1193	IM-1117	Alan Stone Co., Inc.
52	Stark	Sk-WM	IM-1122	Waste Management of Ohio
53	Mahoning	Mg-E	IM-1103	East Fairfield Coal Co.
54	Tuscarawas	Ts-2032	IM-1141	Slankard Dozer Service, Inc.
55	Tuscarawas	Ts-1982	IM-621	L & M Mineral Co.

CLAY/SHALE

			CLAIASHALE	
Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
1 2 4 5 6	Ashland Auglaize Columbiana Columbiana Coshocton	Ald-1 Ae-7 Ca-505 Ca-205 Cn-787	IM-334 IM-13 IM-74 IM-610	London Tile Co. Sandkuhl Tile Co., Inc. Ferris Coal Co., Inc. Summitville Tiles, Inc. General Clay Products Corp.
7 10 11 12 17	Cuyahoga Greene Harrison Hocking Holmes	Cya-19 Ge-8 Hn-152 Hg-205 Hs-56	IM-95 IM-364 IM-42 IM-21	Hydraulic Press Brick Co Southwestern Portland Cement Co. Bowerston Shale Co. General Clay Products Corp. Clark Clay Co.
18	Holmes	Hs-77	IM-545	General Clay Products Corp.
19	Holmes	Hs-67	IM-768	Holmes Limestone Co.
21	Jackson	Jkn-1001	IM-19, IM-336	Cedar Heights Clay Co.
22	Jackson	Jkn-1007	IM-24	Cedar Heights Clay Co.
23	Jackson	Jkn-367	IM-774, D-0273, D-0286, D-0594	Waterloo Coal Co., Inc.
24	Lawrence	Le-440	.M-828, IM-902	American Olean Tile Co., Inc.
30	Lawrence	Le-308	IM-31	Kosmos Cement Co.
31	Licking	Lg-501	IM-257	Bowerston Shale Co.
34	Mahoning	Mg-608	IM-4	E.M.A.I. Corp., dba ESSROC Materials, Inc.
36	Marion	Mn-7	IM-309	Glen-Gery Corp.
37	Medina	Ma-6	IM-455	General Clay Products Corp. Bowerston Shale Co. Midwest Portland Cement Corp. Towne Square Products Lafarge Corp.
38	Muskingum	Mum-776	IM-256	
39	Muskingum	Mum-24	IM-303	
41	Noble	Ne-66	IM-664	
42	Paulding	Pg-1	IM-513	
46	Perry	Py-212	IM-58	Ludowici-Celadon Co.
56	Tuscarawas	Ts-1517	IM-46	Belden Brick Co.
57	Tuscarawas	Ts-1646	IM-44	Belden Brick Co.
58	Tuscarawas	Ts-1841	IM-45	Belden Brick Co.
59	Tuscarawas	Ts-1939	IM-47	Belden Brick Co.
60	Tuscarawas	Ts-1960	IM-48	Belden Brick Co. Kimble Clay & Limestone Co. L & M Mineral Co. L & M Mineral Co. L & M Mineral Co.
63	Tuscarawas	Ts-1818	IM-9	
64	Tuscarawas	Ts-1884	IM-6	
65	Tuscarawas	Ts-1914	D-0701	
66	Tuscarawas	Ts-1981	IM-741	
67	Tuscarawas	Ts-1557, Ts-1558	IM-52	Stone Creek Brick Co. Sugarcreek Clay & Limestone, Inc. Zoar Mining Co. Zoar Mining Co. Claycraft Co.
69	Tuscarawas	Ts-1928	IM-98	
70	Tuscarawas	Ts-538	IM-27	
71	Tuscarawas	Ts-540	IM-28	
73	Wyandot	Wt-7	IM-407	
74 76 77 79 81	Muskingum Stark Tuscarawas Columbiana Athens	Mum-D Sk-235 Ts-1982 Ca-947 As-594	IM-917 IM-945 IM-621 IM-935	Dennis Clay Co. Holmes Limestone Co. L & M Mineral Co. Dome Minerals, Inc. Athens Hocking Reclamation Center
82	Ashtabula	Asa-14	IM-563	Janson Soil Service, Inc.
83	Perry	Py-336	IM-1040	Nutter Bros. Coal Co., Inc.
85	Tuscarawas	Ts-520	IM-214	Blue Jay Enterprises of Tuscarawas Co., Inc.
86	Geauga	Gea-9	IM-132	Soltis Sand & Gravel
87	Athens	As-595	IM-1083	Cochran Transportation Services, Inc.
91	Coshocton Erie Greene Jackson Lake	Cn-828 Ee-32 Ge-44 Jkn-CH Lke-M	IM-1026 IM-1077 IM-1060 IM-1059	William Albert, Inc. Speer Bros., Inc. Southwestern Portland Cement Co. Cedar Heights Clay Co. Mitchell Transport, Inc.
95 96 97	Lawrence Lucas Ottawa Perry Perry	Le-A Ls-E Oa-B Py-S Py-N	IM-1072 IM-1075 IM-1084 IM-1080 IM-1097	Addington, Inc. Envirosafe Services of Ohio, Inc. Browning-Ferris Industries of Ohio, Inc. Swingle Drilling, Inc. Nutter Bros. Coal Co., Inc.
100	Pike	Pke-26	IM-142	Valley Materials Co.
	Portage	Pe-B	IM-1054	Beaver Excavating Co.
	Preble	Pre-9	IM-1095	Loxley Aggregates, Inc.

CLAY/SHALE—Continued

			CLAY/SHALE—Conti	nuea
Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
102 103 104 105 106	Stark Tuscarawas Wood Belmont Columbiana	Sk-HC Ts-2024 Wd-13 Bt-1190 Ca-970	IM-1037 IM-1087 IM-998 IM-1089 IM-1024	Hillcrest Coal, Ltd. Green Basin Coal, Inc. G. M. Sader Excavating & Paving, Inc. Frank Widmor Coal Co. M & M Builders Supply Co.
107 108 109 110 111	Mahoning Perry Harrison Hocking Holmes	Mg-EM Py-338 Hn-B Hg-G Hs-96	IM-1056 IM-1092 IM-1020 IM-1013 IM-997	E.M.A.I. Corp., dba ESSROC Materials, Inc. Dennis Clay Co. Bowerston Shale Co. General Clay Products Corp. Spring Run Farm & Gravel
112 114 116 117 118	Muskingum Richland Portage Muskingum Mahoning	Mum-24 Rd-R Pe-61 Mum-B Mg-E	IM-830 IM-1035 IM-1064 IM-1119 IM-1103	Midwest Portland Cement Corp. Richland Moulded Brick Co. Red Brush Peat Co. Browning Ferris Industries of Ohio, Inc. East Fairfield Coal Co.
119 120 121 122 123	Butler Butler Lawrence Muskingum Stark	Br-F Br-SK Le-445 Mum-904 Sk-246	IM-1135 IM-1137 IM-1140 IM-1127 IM-1114	Ford Development Corp. S. K. Construction Co. White Eagle Mining Co., Inc. Valley Mining Co. American Landfill, Inc.
124 125 126 127	Muskingum Stark Stark Columbiana	Mum-DC Sk-WM Sk-WM1 Ca-989	IM-1115 IM-1122 IM-750 IM-1110	Dennis Clay Co. Waste Management of Ohio Waste Management of Ohio Summitville Tiles, Inc.
			SALT 🕕 🖃	
Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
1 2 3 4 5	Cuyahoga Lake Licking Summit Wayne	Cya-30 Lke-6 Lg-45 St-9127 We-9129		Akzo Salt, Inc. Morton International, Inc. R. H. Penick Co. Akzo Salt, Inc. Morton International, Inc.
			GYPSUM ♠	
Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
1	Ottawa	Oa-2	IM-344	Celotex Corp.
			PEAT ♦	
Map location number	County	State mine number	Division of Reclamation permit number	Name of operator
1 2 4 7 9	Ashland Champaign Williams Portage Portage	Ald-13 Cpn-9 Ws-17 Pe-89 Pe-61	IM-1142 IM-1064	Mohican Organic Products, Inc. Sphagnum Moss Peat Farm Lingvai Peat Co. Green Oaks Potting Products Red Brush Peat Co.





STATE OF OHIO
George V. Voinovich, Governor
DEPARTMENT OF NATURAL RESOURCES
Frances S. Buchholzer, Director
DIVISION OF GEOLOGICAL SURVEY
Thomas M. Berg, Chief

MINERAL INDUSTRIES MAP OF OHIO

1991

COMPILED BY DOUGLAS L. CROWELL, SHERRY L. WEISGARBER, AND CLARK L. SCHEERENS

This map is based on operators listed in the 1991 Report on Ohio mineral industries and is intended for general reference. Assistance with locations was received from the Ohio Department of Natural Resources, Division of Reclamation.









